FREE LOOPS & SAMPLES 2 EXCLUSIVE NEW PACKS + 18GB ARCHIVE LIBRARY

Issue 410
Making the future since 1992

FutureMusic®

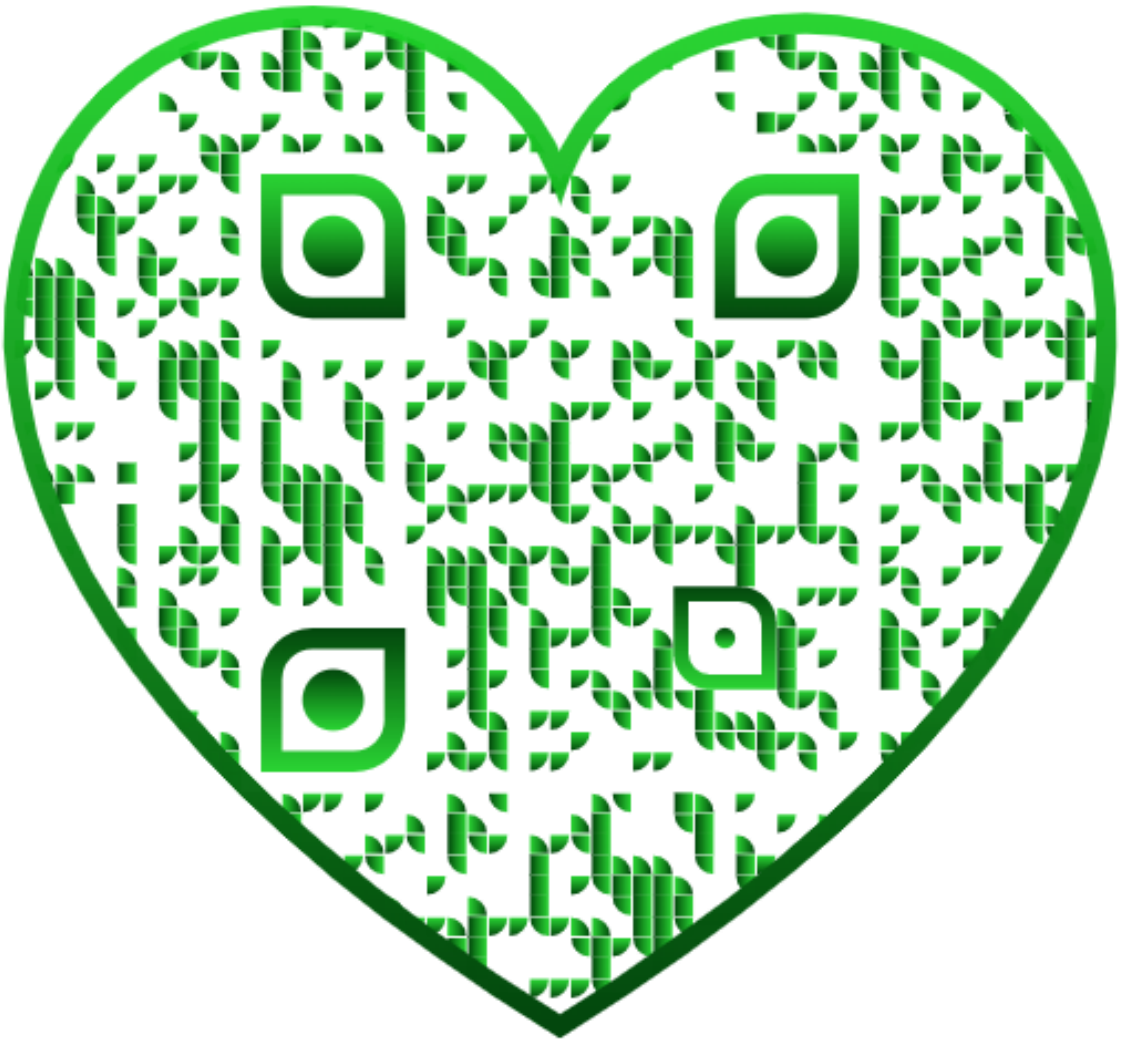
Technique and technology for making music

NOISE

Why it's the secret ingredient to add texture, atmosphere and unpredictability to your tracks

BULLION
POLYBRUTE 12
DAVE CLARKE
LFO MASTERCLASS
GIGI FM

FUTURE



Little AlterBoy

More Choices for Your Voices

Unlock a new realm of audio exploration and discover a palette of effects for expressive tonal control that go way beyond pitch-shifting. Little AlterBoy also includes a powerful combination of formant-shifting and tube saturation (and more!) to dramatically alter the texture and character of your vocals and instruments.

"If anything is just too pure and not exciting enough, reach for Little AlterBoy ASAP."

- Andrew Sarlo (Big Thief, Nick Hakim, Bon Iver)

soundtoys

Free 30-Day Trial
at www.soundtoys.com

ORIA

Atmos just got easy

Immersive Audio Interface & Monitor Controller

Meet ORIA, **the world's first** audio interface and monitor controller designed specifically with immersive audio in mind. Built for creating immersive audio mixes for formats such as Dolby Atmos, ORIA lets you calibrate, control and monitor multi-channel speaker arrays from **stereo up to 9.1.6** and everything in between. Perfect for music, film, TV, game and VR production.

AUDIENT

Officially Certified
Dolby Atmos

LEWITT

RAY introduces autofocus for your voice.

Instead of making perfectly sharp pictures, you're getting perfectly balanced recordings. RAY dynamically adapts your levels and tone according to your distance to the microphone with the new sensor-based technology called AURA. It's like autofocus but for your voice.

Experience RAY for yourself.
lewitt.link/ray-future

FutureMusic

Editor-In-Chief
Si Truss, simon.truss@futurenet.com
Reviews Editor, Music Technology
Simon Arblaster, simon.arblaster@futurenet.com
Tech Editor, MusicRadar.com
Matt Mullen, matt.mullen@futurenet.com
Managing Editor
Kate Puttick, kate.puttick@futurenet.com
Production Editor
Stan Bull, stanley.bull@futurenet.com
Design **Philip Cheesbrough, Meg Culliford, Mark White**

CONTRIBUTORS **Bruce Aisher, Phil Barker, Oli Bell, Richard Butcher, Olly Curtis, Simon Fellows, Dan Flintcroft, Andy Jones, Adam Lee, Jon Musgrave, Rob Redman, James Russell, Roy Spencer, Robbie Stamp, Danny Turner**

ADVERTISING
For Ad enquiries: Kyle Phillips, kyle.phillips@futurenet.com

MARKETING
Direct Marketing Executive: Will Hardy

PRODUCTION & DISTRIBUTION
Production Controller: Fran Twentyman **Production Manager:** Mark Constance
Printed in the UK by: Buxton Press on behalf of Future
Distributed in the UK by: Marketforce (UK), 2nd Floor, 5 Churchill Place, Canary Wharf, London, E14 5HU **Tel:** +44 (0) 203 787 9001

CIRCULATION
Head of Newstrade: Tim Mathers

SUBSCRIPTIONS AND BACK ISSUES
How to order and access back issues: If you are an active subscriber, you have instant access to back issues through your iOS or Android device/s. Your digital magazine entitlement is available at no additional cost and no further action is required. You will only be able to access the digital back issues as long as you are an active subscriber.
To purchase single back issues (print format only) visit: www.magazinesdirect.com (click on 'Single issues' tab) **Or email:** help@magazinesdirect.com **For further help call:** +44(0)330 333 1113 Lines are open Mon- Fri 8.30am-7pm and Sat 10am-3pm UK time. Magazinesdirect.com is owned and operated by Future Publishing Limited.'
Subscription prices: £93.60 for UK, €183 for Europe, $207 for USA, £159 for the Rest of World

INTERNATIONAL LICENSING AND SYNDICATION
Future Music is available for licensing and syndication. Contact the Licensing team.
Head of Print Licensing: Rachel Shaw, licensing@futurenet.com

MANAGEMENT
Brand Director, Music: Stuart Williams **Content Director:** Scott Rowley
Global Head of Design: Rodney Dive **Head of Design (Music):** Brad Merrett
Group Art Editor: Graham Dalzell

Future Music, ISSN 0967-0378, is published monthly with an extra issue in December by Future Publishing, Quay House, The Ambury, Bath, BA1 1UA, UK.
The US annual subscription price is $197.60. Airfreight and mailing in the USA by agent named World Container Inc, c/o BBT, 150-15 183rd St, Jamaica, NY 11413, USA. Application to Mail at Periodicals Postage Prices is Pending at Brooklyn NY 11256.
US POSTMASTER: Send address changes to *Future Music*, World Container Inc, c/o BBT, 150-15 183rd St, Jamaica, NY 11413, USA
Subscription records are maintained at Future Publishing, c/o Air Business Subscriptions, Rockwood House, Perrymount Road, Haywards Heath, West Sussex, RH16 3DH, UK

FUTURE
Connectors. Creators. Experience Makers.

Future plc is a public company quoted on the London Stock Exchange (symbol: FUTR)
www.futureplc.com

Chief Executive Officer **Jon Steinberg**
Non-Executive Chairman **Richard Huntingford**
Chief Financial and Strategy Officer **Penny Ladkin-Brand**
Tel +44 (0)1225 442 244

We are committed to only using magazine paper which is derived from responsibly managed, certified forestry and chlorine-free manufacture. The paper in this magazine was sourced and produced from sustainable managed forests, conforming to strict environmental and socioeconomic standards. The manufacturing paper mill holds full FSC (Forest Stewardship Council) certification and accreditation

All contents © 2024 Future Publishing Limited or published under licence. All rights reserved. No part of this magazine may be used, stored, transmitted or reproduced in any way without the prior written permission of the publisher. Future Publishing Limited (company number 2008885) is registered in England and Wales. Registered office: Quay House, The Ambury, Bath BA1 1UA. All information contained in this publication is for information only and is, as far as we are aware, correct at the time of going to press. Future cannot accept any responsibility for errors or inaccuracies in such information. You are advised to contact manufacturers and retailers directly with regard to the price of products/services referred to in this publication. Apps and websites mentioned in this publication are not under our control. We are not responsible for their contents or any other changes or updates to them. This magazine is fully independent and not affiliated in any way with the companies mentioned herein.

If you submit material to us, you warrant that you own the material and/or have the necessary rights/permissions to supply the material and you automatically grant Future and its licensees a licence to publish your submission in whole or in part in any/all issues and/or editions of publications, in any format published worldwide and on associated websites, social media channels and associated products. Any material you submit is sent at your own risk and, although every care is taken, neither Future nor its employees, agents, subcontractors or licensees shall be liable for loss or damage. We assume all unsolicited material is for publication unless otherwise stated, and reserve the right to edit, amend, adapt all submissions.

The art of noise

'Noise' in music production is often associated with experimental artists. Think 'noise' and you might conjure images of Pierre Schaeffer or of Aphex Twin DJing with sandpaper. While noise can certainly be a powerful experimental tool, it's also a core component of all music production, even at its most approachable.

Noise is a core building block from drum synthesis, a useful addition to most synth engines, a go-to source for random modulation and much more besides.

That's why, this issue, we're foregoing the melodies and harmonies to focus on how and why you should think of noise as an important part of your production process.

We hope you enjoy the issue.

Si Truss, Editor-In-Chief
simon.truss@futurenet.com

Widely Recycled
ipso. For press freedom with responsibility

FM CONTENTS

38

INTERVIEW

Bullion

The producer behind Carly Rae Jepsen and Avalon Emerson on self-doubt, creative strategies and his latest solo LP

ISSUE **HIGHLIGHTS**

72

REVIEWED

Arturia PolyBrute 12

Arturia's flagship gets a mega upgrade – is it worth the mega price?

64

Interview
GiGi FM

90

Review
Boss VE-22

84

Review
SOMA Metaconformer

20

Talking Shop
Kasper Bjørke

50

Masterclass
Modern LFOs

22

Classic Album
Mike Parker, *Dispatches*

REVIEWS

72 Arturia PolyBrute 12

76 KRK Rokit 5 G5

78 1010Music nanobox Tangerine

82 Lewitt Ray

84 SOMA Labs Metaconformer
86 Kali Audio LP-8 Second Wave
88 4ms Catalyst
89 Noise Lab Formantic
90 Boss VE-22 Vocal Performer
92 Sounds and Samples

ARTISTS

20 TALKING SHOP
KASPER BJØRKE
38 INTERVIEW
BULLION
46 IN THE STUDIO
DEMI RIQUÍSIMO
56 INTERVIEW
DAVE CLARKE
64 INTERVIEW
GIGI FM

REGULARS

12 Filter: The latest news
22 Classic Album: Mike Parker, *Dispatches*
22 SAVE MONEY, subscribe today!
24 Releases: What's caught our ear this month?
46 Masterclass: LFOs
59 Producer's Guide: Neve 1073 Mic Pre/EQ

76 Pioneers… Jean-Michel Jarre

94 Gear Guide

SOCIAL

Find us online at
futuremusic.co.uk

Watch our videos
youtube.com/futuremusicmagazine

Follow us on Twitter
@futuremusicmag

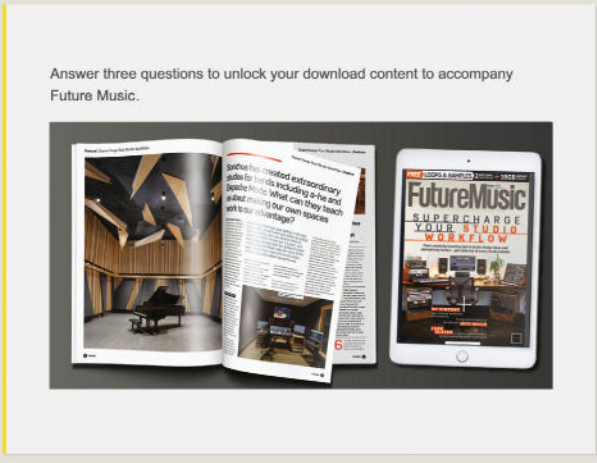
Join us on Facebook
facebook.com/futuremusicmagazine

ACCESSING YOUR **BONUS DIGITAL CONTENT**

musicradar.com/how-to/future-music-410-downloads

Head to the link above to grab the latest samples and downloads!

(Image credit: Future)



46

IN THE STUDIO

Demi Riquísimo

INCLUDES VIDEO

The UK producer invites us into his studio to talk about the retro synth sounds behind *Windows 95 Anthem*

IN THE **ARCHIVE – UPDATED!**

FM's Sample Archive gives you over 18GB of royalty-free sounds. **Here's what's inside...**

ARCHIVE CLASSICS

AMBIENT SOUNDS PT.1
- '90s Ambient (562 samples)
- Ambient Dawn (490 samples)

AMBIENT SOUNDS PT.2
- Majestic Bells & Mallets (444 samples)
- Spring Reverb & Tape Delay (533 samples)

ATMOSPHERES & BACKGROUNDS
- Atmospheric Beds (369 samples)
- Noise, Crackle & Hiss (512 samples)
- Sounds of the City (371 samples)

BASS BUNDLE
- Amped-Up Bass (234 samples)
- Sub-Frequency Grooves (256 samples)

ESSENTIAL DRUMS
- 808 and 909 (39 samples)
- Ultimate Cymbals (503 samples)
- Ultimate Kick Bundle (505 samples)
- Ultimate Snares & Claps (676 samples)
- Vintage Drum Machine Hits (548 samples)

FOUND FAVOURITES
- Mechanical Sounds (390 samples)
- Out There FX (500 samples)
- Studio Noise (234 samples)
- The Edge Of Noise (512 samples)
- The Sound Of Water (375 samples)

FUTURE DRUMS
- Beyond Breakbeats (186 samples)
- Digital Percussion (502 samples)
- Electro FX (321 samples)
- Granular Drums (499 samples)

FX & TRANSITIONS PT.1
- Filter Fun (496 samples)
- Gates 'N' Sidechains (287 samples)
- Total Transitions (260 samples)

FX & TRANSITIONS PT.2
- Destroyed synths (519 samples)
- Sci-Fi FX (501 samples)

HIP-HOP, FUNK & SOUL
- Cosmic Soul (386 samples)
- Funk Keys (279 samples)
- Hip-Hop Drum Machines (387 samples)
- Minimal Hip-Hop (540 samples)

HOUSE & TECHNO
- Chicago House (537 samples)
- House & Techno Stabs (213 samples)
- Jacking House (518 samples)
- Warehouse Techno (575 samples)

PERCUSSION
- Modular Percussion (510 samples)
- Shakers, Tambs & Toplines (503 samples)
- Sticks, Knocks & Rims (502 samples)

MORE BEATS
- '80s Pop Drums (197 samples)
- Dub Percussion 2 (537 samples)
- Jazz Drums (499 samples)
- Total Snares (501 samples)

TRANCE & RAVE
- Classic Breakbeats (371 samples)
- Rave Synths (524 samples)
- Trance Tools (537 samples)

NEW PACKS

'70S SYNTHS
- '70s Synths Pt 1 (102 samples)
- '70s Synths Pt 2 (192 samples)

'80S SYNTHS
- '80s Synths Pt 1 (265 samples)
- '80s Synths Pt 2 (279 samples)

'90S SYNTHS
- '90s Synths Pt 1 (414 samples)
- '90s Synths Pt 2 (411 samples)

'00S SYNTHS
- '00s Synths Pt 1 (308 samples)
- '00s Synths Pt 2 (188 samples)

DRUM HITS
- Analogue Drums (311 samples)
- Rims 'n' Things (549 samples)
- Resonator Percussion (502 samples)
- Hats, Cymbals & Gongs (280 samples)

LO-FI TOOLS
- Clips, Skips and Glitches (497 samples)
- Tape World (499 samples)
- Lo-fi Acoustic (277 samples)

ETHEREAL FX
- Digital Nature (255 samples)
- Clouds & Air (496 samples)

TECHNIQUE **& FEATURES**

30

Noise

Forget melody and harmony – we show you why noise is the secret to bringing your tracks to life, and how to harness its power

EXCLUSIVE **SAMPLE PACKS**

Minimal Percussion

CYCLICK SAMPLES PRESENT...

Tight and punchy drums are the order of the day in this pack of small but hard-hitting beats, grooves and loops

Synth Arps

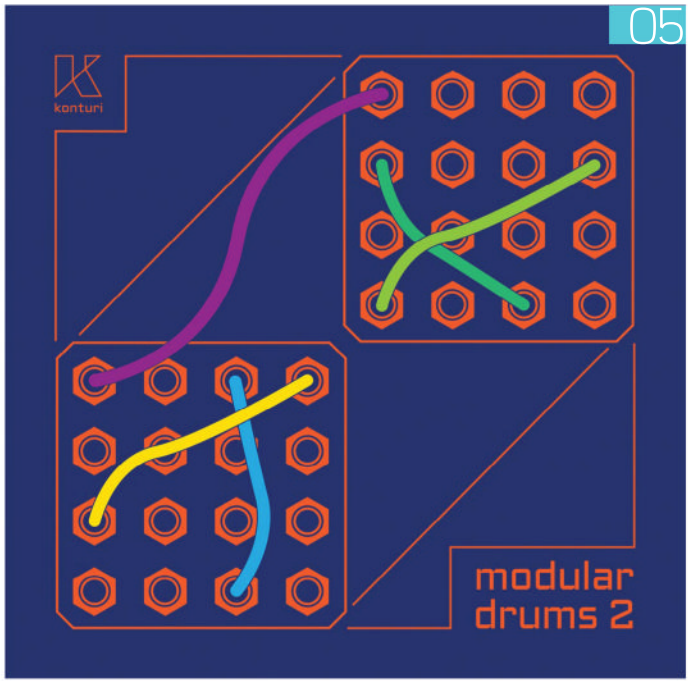
GROOVE CRIMINALS PRESENT...

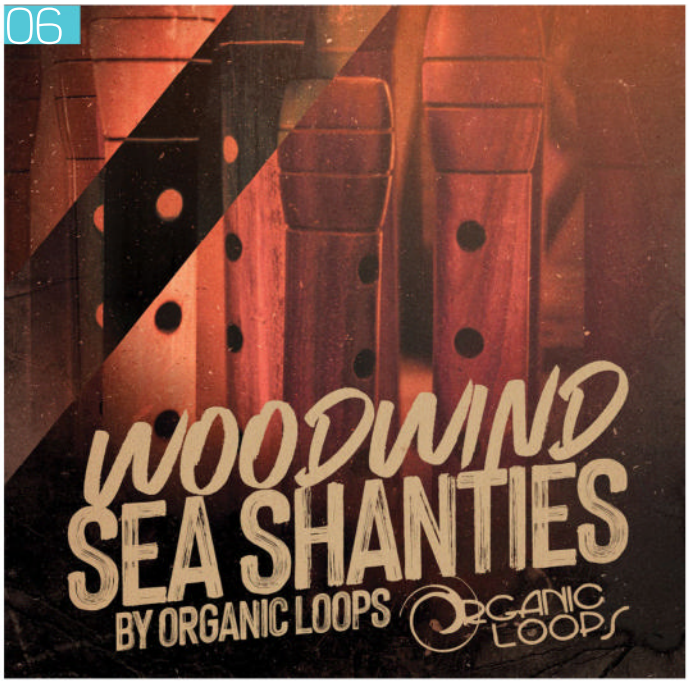
Add groove and melody to your tracks with this pack of classic arpeggiator-driven synth lines, loops and riffs

BONUS **SAMPLES** DOWNLOAD AT MUSICRADAR.COM/HOW-TO/FUTURE-MUSIC-410-DOWNLOADS

loopmasters.com

01 **Leitmotif pres.** Symphoria Orchestral Trailer Motifs
02 **Rewind Samples** Dreamwave Drum & Bass
03 **Samplestate Presents** Roxe Heavy Tech House
04 **Abstract Samples** Hypnotic Mnmal
05 **Konturi** Modular Drums 2
06 **Organic Loops** Woodwind Sea Shanties





Advertisement

GO ON. BE SAVVY.

GO. COMPARE

Step this way for satisfying savings.
Go.Compare.

Apple launches new AI-touting versions of Logic Pro

Logic Pro 11 and Logic Pro for iPad 2 add stem separation, virtual session players and an ‘instant warmth’ effect

Apple has launched new versions of Logic Pro for both Mac and iPad – versions 11 and 2 respectively.

Leading the way in each of the editions are new AI-powered features: Bass and Keyboard 'Session Players', which do for these instruments what Drummer does for drums; Stem Splitter, which breaks apart stereo material so that you can create remixes; and ChromaGlow, a new effect that promises to add "instant warmth".

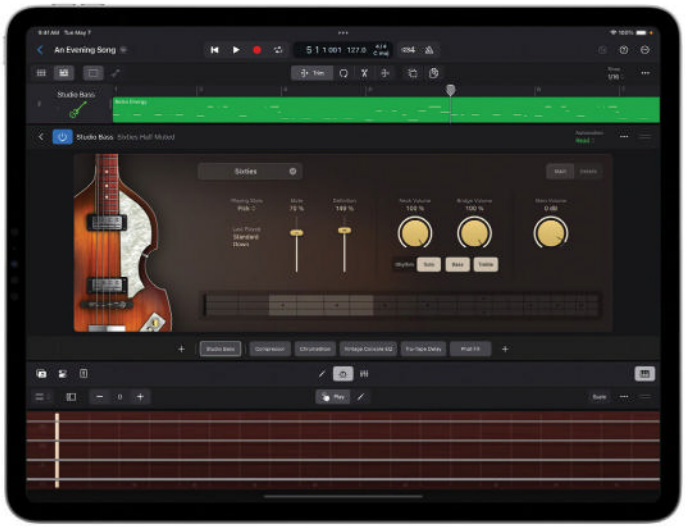
Both Bass Player and Keyboard Player are designed to follow your defined chord progressions, and offer various levels of customisation. You can choose from eight different virtual bassists – these are said to have been trained "in collaboration with today's best players" (we'd be keen to find out who) – and control the levels of playing complexity. There are adjustable slide, mute, deadnote and pickup hit parameters, too, and 100 Bass Player loops are provided so that you can hear what it can do.

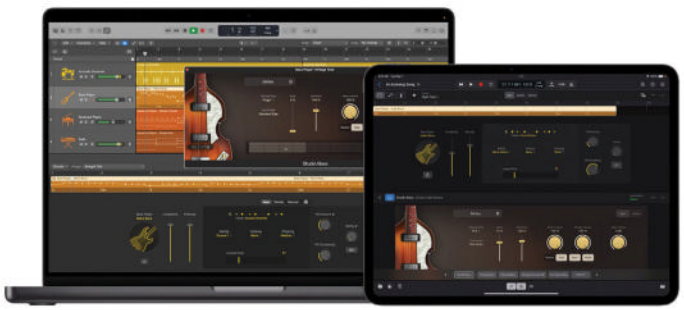
It's a similar story with Keyboard Player; here, there are four different styles, and you can generate everything from simple chords to complex voicings.

Functionally, these are fairly similar to Logic's existing Drummer tool, which has also been updated. You can define and edit your chord progressions using the dedicated Chord Track, and you can access the sounds that Bass and Keyboard Player draw on, using the Studio Bass and Studio Piano plugins. There are also a variety of preset chord progressions to draw inspiration from.

Although the technology is undeniably impressive, from our tests so far we're not convinced that this is going to kill songwriting as we know it. In general, results are of a similar quality to what you'd achieve by mixing existing Apple Loops, albeit with more flexibility. Singer/songwriters looking to put together demos will likely find it a useful tool. It's these users, more than electronic musicians, who are likely to benefit from these new additions – although we'd be interested to see what experimental artists can come up with through creative misuse.

Stem Splitter, meanwhile, does what it says: breaks apart mixes. As is becoming customary with tools like this, audio is split into Drum, Bass, Vocal and Other instrument tracks, with these immediately being put into Logic Pro's timeline.





As with similar tech in other applications, the quality of the results depends on what you feed it, but being able to simply right-click a file in your DAW and break it into vocals, drums, bass and 'other' instruments is very convenient. When combined with Logic Pro's many other features, it opens up a whole world of easy remixing possibilities. The process is fairly swift too – using our M1-equipped Macbook Pro, it could process a 3-4 minute track in around 30 seconds.

As for ChromaGlow, this 'warmth generator' models the sound of "the world's most revered studio hardware" and comes with five different saturation styles.

We'll have more on the new versions of Logic Pro when we've had a chance to use them more thoroughly:. They're out now with prices remaining at £200 for the Mac version, and £5/month or £49/year for the iPad edition. Both updates are free for existing users.

Go Pro

Alongside these software updates, Apple has also launched a new iPad Pro. As before, it's available in two sizes – 11-inch and 13-inch – and both models are strikingly thin, measuring 5.3mm and 5.1mm respectively. In fact, Apple claims that this is the thinnest product it's ever made. As for the processor, the new iPad Pro packs the company's new M4 chip, which sports four performance cores, six efficiency cores, "nex-gen" machine learning accelerators and more efficiency.

Prices for the new iPad Pro start at £999 for the 11-inch WiFi model and £1,299 for the 13-inch WiFi model (both available in silver and black), with storage options running from 256GB all the way up to 2TB.

While the hardware itself looks impressive, Apple did manage something of an own goal with the launch advert, which was variously described as "dark", "dystopian" and "deeply offensive" on social media. The ad, which Apple has titled Crush!, depicts a collection of objects associated with creativity – including a number of musical instruments and a mixing desk – being crushed by a gigantic slab of metal. After the objects have been slowly pulverised, the press lifts up, only to reveal the new iPad Pro in their place.

> YOU NO LONGER NEED ANY OF YOUR BELOVED CREATIVE TOOLS... THE IPAD PRO CAN DO IT ALL

The message of the ad isn't hard to discern: you no longer need any of your beloved creative tools because the iPad Pro can do it all. Musical instruments, analogue recording equipment, studio monitors – the device makes all of these redundant. "Everything beautiful, charming and analogue will be destroyed by a flat black screen," as one commenter put it. FM

Polyend unveils revamped Tracker+

We were big fans of Polyend's Tracker when it arrived in 2020. Although it draws its inspiration from the somewhat niche world of software trackers, beyond those retro leanings lies a well-equipped and surprisingly approachable sample-based sketchpad.

With Tracker+, Polyend is giving the design of the original an all-round significant overhaul. As with the original, Tracker+ is a sequencer-based instrument equipped with both sampling and synthesis engines.

However, each of these elements has been significantly expanded compared to the original release.

One of the most significant improvements here is fully stereo sampling and sample playback. On the synthesis side, Tracker+ now comes with four different synthesis engines: ACD is a single oscillator virtual analogue monosynth, FAT is a three-oscillator virtual analogue with drift and detune controls, VAP is a virtual analogue polysynth with flexible modulation matrix, while WTFM combines wavetable and FM synthesis. Each Tracker project can be loaded with up to three synth instances making use of a total of eight voices.

Alongside these synth engines, Tracker+ adds a new drum machine engine, named Perc. This uses up one of the eight available synth voices, but can produce five drum sounds simultaneously, including a range of kick, snare, hat, tom and perc tones.

The distinctive vertical tracker-style sequencer has been expanded here, for a total of 16 tracks. Of these, the first eight are universal and can sequence synths, stereo samples or MIDI, while the latter eight are restricted to sequencing external MIDI or the internal synths or drum machines. Tracker's song mode has been updated and expanded too.

The hardware also adds USB audio capabilities, making it easier to get your creations into a DAW environment. To cope with the new functionality, Tracker+ is upgraded with additional processing power and sampling memory. What's more, a forthcoming update to Polyend's compact Tracker Mini promises seamless compatibility between it and Tracker+, meaning Tracker Mini users can begin sketches on the cut-down version before porting them to the upgraded Tracker+ to take further.

Tracker+ is available to order now priced at $/€799. **FM**

The TEO-5 is a Take-5 gone Oberheim

Sequential's Take 5 was the first product released after the brand was acquired by Focusrite in 2021. Based on a similar architecture to Sequential's iconic Prophet-5, the synth took the core elements of the Sequential sound and packaged them into an instrument that was more compact and affordable than its influence, and also felt like a fresh and modernised take.

Now we have the TEO-5 – the same concept but with Oberheim in place of Sequential. Again released under the Focusrite umbrella – while the modern Oberheim brand is still headed up by Tom Oberheim, it operates in collaboration with Sequential and Focusrite – the TEO-5 is based around many of the features found on the company's OB-X8. These include two analogue oscillators per-voice equipped with Oberheim's X-Mod functionality, as well a SEM filter that can function in low-pass, high-pass, notch and band-pass modes.

Alongside these core features, the five-voice TEO-5 also packs two DADSR envelopes and two LFOs for modulation, a 64-step polyphonic sequencer and multi-mode arpeggiator. There is also a 'vintage' control that can be used to add a little of the drift and unpredictability inherent in vintage analogue gear. Its signal path is rounded off with overdrive, plus digital reverb and multi-effect slots.

Priced at £1,499, the TEO-5 could offer a great way to access the classic Oberheim sound in hardware form, for a fraction of the price of the company's top-end OB-X8 or OB-6 instruments. **FM**

Bastl updates its Thyme effect processor

Originally released in 2017, Bastl's Thyme is a desktop effects processor. The setup is inspired by a multi-head analogue tape echo, allowing users to create complex repeat-based effects and modulate parameters such as the speed, position and filtering of playback. In fact, every parameter on Thyme's control panel has its own modulation tool – referred to as a Robot – allowing for complex effects that go far beyond analogue tape emulation. Combined with a 32-step sequencer that allows users to create patterns using the device's presets, it makes Thyme a handy tool for extreme glitchiness and sound mangling.

Now Bastl has released Thyme+. This new version sticks fairly closely to the original, with improvements. The hardware gets a new metal chassis along with a refined UI layout, which is more spaced out and designed to make it easier to perform live by triggering presets. The audio connectivity has been slightly tweaked, adding separate left and right connections for both the input and output, although Thyme+ loses the MIDI output of its predecessor. Bastl also tells us that the audio codec and firmware have been updated and improved under-the-hood. Thyme+ is out now priced at €495 exc VAT. FM

Moog revives the Spectravox filter bank for a full release

Throughout the 2010s, Moog played host to a series of Moogfest weekenders in and around its North Carolina base of operations. Combining live performances, talks and workshops, the events were part music festival, part celebration of the synth brand's heritage.

One regular fixture at those Moogfest events was an engineering workshop, which not only gave attendees a chance to try their hand at instrument building, but often provided the wider world with a glimpse into what the company had in the pipeline.

Instruments including the DFAM, Mother-32 and Subharmonicon all began life as DIY workshop projects, before re-emerging as official – non-DIY – instrument releases later on.

The last Moogfest happened in 2019, and attendees of that event's engineering workshop got to build an instrument called Spectravox, a resonant filter bank built into a similar form factor as the DFAM et al, which functioned as both a vocoder and semi-modular synth. Since 2019, a lot has changed for Moog, including the company being acquired by InMusic and recently downsizing its Asheville factory. To be honest, we'd almost completely forgotten about the Spectravox and assumed it would remain a DIY rarity, but now five years later Moog has unveiled an updated version for full release.

The basic concept for Spectravox remains the same as the DIY version. It's a 10-band filter bank paired with a single analogue oscillator and white noise generator. As before, these allow it to function both as a vocoder – with a combo XLR/jack for external inputs – or as a standalone synthesiser.

The most obvious difference from the Moogfest version is the fact that the faders used to control each filter's VCA on the original have here been replaced by rotaries and CV patch points. Along with the oscillator and noise generator, Spectravox also features a triangle wave LFO for internal modulation.

The unit itself is built into a 60HP case that matches that of the Mother-32, Subharmonicon and DFAM. As with those synths, Spectravox is semi-modular and features a patchbay along the right-hand side with a further 16 CV inputs and outputs.

The signal path allows for Spectravox to function as a synth without the need for an external input or any patching. We suspect, however, that Spectravox will likely be at its best when paired with Moog's other semi-modular hardware.

Spectravox is available to order now priced at $599. FM

Digitakt II, Elektron's long-awaited successor to its popular sampler, adds stereo sampling, an expanded sequencer, more tracks and new effects

Elektron says the next edition of Digitakt has "so much more power under the hood", and it's not wrong; with the addition of stereo sampling, an expanded track count and sequencer, more memory, effects, LFOs and a host of workflow upgrades, the machine is likely to please devotees of the original while offering something a little more capable to those thinking about making the jump. Up from Digitakt's eight tracks, the new version has 16 that can be freely assigned to trigger either the internal sampling engine or external gear via MIDI. The original's 64-step sequencer has been doubled, and now supports patterns of 128 steps. You'll also find a new Euclidean sequence generator onboard. What's more, the II has been equipped with a far roomier storage capacity than its predecessor, with 20GB of sample storage and 400MB of sample memory (RAM).

While the visual aspect of the Digitakt is pretty similar, there are a few extra buttons that point to new or improved features; an FX button can be used to access the expanded selection of effects, which now offers delay, reverb, chorus, bitcrusher and sample rate reduction per track, along with compression and overdrive master effects. A keyboard button activates Keyboard Mode, which lets you play chromatically across ten octaves or experiment with 30 preset scales.

Digitakt II features new, 'swappable' filters, with a base/width filter per track and an additional slot to be filled with your choice of five filters (Multi-mode, Low pass 4, Comb, EQ, or Legacy LP/HP). There's more in the way of modulation, too, with three LFOs available per track. In terms of I/O, it's much the same as before, with balanced stereo ins and outs, a headphone output, MIDI In, Out and Thru and a USB 2.0 connection for hooking up with Overbridge via your computer.

Digitakt II is priced at £899. FM

Reason 13 puts the focus on workflow, and there are new synth and 'space delay' devices, too

Reason Studios has announced Reason 13, the latest version of its DAW and plugin. From a redesigned sequencer and interface to five new Rack Devices, the software appears to be full of improvements, and will be released on 18 June.

The announcement comes almost three years after the unveiling of Reason 12, and one of the most obvious ways that the software's workflow has been speeded up is with the introduction of a new browser, which puts all patches, samples and loops in one place. You can search by name and type and select categories and tags. The Reason soundbank has been updated with new patches, samples, REX loops, demo songs and song starter templates.

The sequencer, meanwhile, has been split in two, with a new detailed Edit Area dovetailing with an arrangement view that enables you to keep track of where you are. There's improved zooming, easier access to editing features, and layout tweaks to freshen things up.

There are two new headline devices, starting with the Polytone dual-layer synthesiser. Inspired by vintage hardware, this is designed to deliver a warm analogue tone and has the option to stack or morph between layers so that you can create super-fat or evolving sounds.

Ripley, meanwhile, is a space delay that throws reverb into the mix. There's also filtering of various flavours, noise and distortion. The other three new devices – the Sidechain, Gain and Stereo Tools – are more practical in design, but could be equally useful. FM

Arturia's Augmented Yangtze puts a contemporary spin on six classic Chinese instruments

For its latest 'Augmented' instrument, Arturia is looking to China – specifically its "rich musical heritage". Augmented Yangtze brings you the sounds of instruments such as the Bass Dizi, Xiao, Pipa, Guqin, Yangqin and Erhu. These can be played using 38 articulations and 30 processed and multisample articulations, while the four built-in synth engines – virtual analogue, granular, wavetable harmonic and 'simpler' – enable you to create hitherto unheard ambiences and indulge in some more experimental processing.

The front page is kept simple, but you can also dive behind the scenes and tweak your sample and synth layers. It's possible to set up custom modulation, arpeggiation, effects and macros here, too.

Augmented Yangtze comes with 200 presets and can be purchased now for €99. Cross-purchase deals are available too. Simply log in to your account on the Arturia website to find out what your deal is. FM

ALT is a new analogue synth with light sensors and a retro pin matrix

It's not often we spot a pin matrix on a new synth these days, but that's what you'll find on ALT, a new analogue synth from Cyma Forma. Taking us back to the days of the EMS Synthi and the ARP 2500, the pin matrix is a system used for patching on non-modular synths; with inputs and outputs on each axis, a pin is inserted in the matrix to connect the two. ALT's matrix is used for modulation, hooking up one of its four modulation sources (two LFOs, one random step generator and one envelope follower) to a choice of 17 destinations.

The five-voice synth also has "eyes and ears"; two light sensors and a built-in mic let you modulate patches, using environmental stimuli such as a room's lighting or acoustics to shape your tones. You can even hook up the light sensors to pitch and volume in order to play ALT like a theremin.

Described as a "soundscape synthesiser", ALT has five oscillators; one VCO that generates sine waveforms, and four that offer saw or triangle. Each of ALT's oscillators can be individually panned, and you're able to tune them freely or quantise to five different scales, including the Byzantine scale. Though the synth lacks a conventional keyboard, there are five mechanical keys that can be used to trigger each voice.

ALT also has an analogue stereo filter inspired by Korg's MS-20 filter, along with a stereo delay capable of generating infinite feedback. It has two CV inputs, one CV/audio input, and one MIDI input, all 3.5mm, joined by 1/4" stereo outputs and a 3.5mm headphone out. FM

Song Athletics' first plugin is "designed to help you find the joy in your one shot collection"

Song Athletics, a new(ish) brand from former Spitfire Audio CEO Will Evans, has released its first plugin. One Shot Sampler, or OSS, is a plugin aimed at helping you access and trigger your one-shot samples.

Load your one-shots into OSS and you're able to scroll through them "like presets on a synth" as you audition various sounds from your collection. You're able to shape the sample using an ADSR envelope and adjust the start time and gain via OSS's simple interface. The UI can be customised with your own backgrounds, too – a nice touch.

"We believe that there's so much to be had from a single one shot sample," says Song Athletics. "Typically we think of drum kit one shots, and they're great of course, but one shots taken from more melodic instruments or tonal environments are capable of so much more than they're given credit for. Take a slow, undulating sample of an old keyboard running through delays and reverbs, and with just one note, primitively but beautifully stretched across the keyboard, you've got a lush, evolving pad instrument whose limitations create something quite distinctive. Feed OSS your own one shots and we guarantee you'll be inspired, fast."

Since launching late last year, Song Athletics has released several sample packs, including Some Drums and Sloppy Drums, a Dilla-inspired collection of drum loops. Engineered by John Howes, One Shot Sampler is available now in VST3/AU formats for macOS and Windows. The plugin is priced at £40. FM

PreSonus' new Quantum ES and HD audio interfaces feature inputs co-developed with Fender

It's new audio interface time again, as PreSonus vies for the honour of socketing your cables with four new Quantum models: ES 2, ES 4, HD 2 and HD 8. Collectively, the lineup is said to be "the ultimate recording interface for your favourite DAW".

Sitting in the mid to higher-end sector of the market, all of the new interfaces sport new MAX-HD preamps and what PreSonus thinks are low-noise converters and custom low-latency drivers. The front-facing instrument inputs, meanwhile, were co-developed with Fender, PreSonus's parent company.

Other features that are common to all the models include auto gain, for automatic input level setting, and Loopback, for creating monitor and streaming mixes. The HD interfaces also add reamping, which enables you to send audio out from your DAW, run it through your amps and effects and send it back to the computer. Universal Control, meanwhile, is a piece of software that enables you to make settings from your mobile or desktop device.

While the 2x2 ES 2 and 4x4 ES 4 can operate at 24-bit/192kHz, the 20x24 HD 2 and 26x30 HD 8 max-out at 32-bit/192kHz. The HD models also have ADAT capabilities; all four models hook up to your computer via USB-C.

Unsurprisingly, all the new interfaces are designed to integrate tightly with PreSonus' Studio One DAW. In fact, the Quantum ES models come with six months of access to the Studio One+ subscription service, and the Quantum HD devices come with a year of Studio One+ Hybrid, which includes a perpetual licence for the DAW itself.

"We're so excited to launch the next generation of Quantum Audio Interfaces – the culmination of 30 years of engineering expertise resulting in the highest quality audio interfaces PreSonus has ever made," said Max Gutnik, SVP of Product at PreSonus Hardware. "The new Quantum Audio Interfaces are crafted with sleek, modern design, class-leading performance, and a set of powerful new features that serve creators at every level."

Prices for the new interfaces are as follows: Quantum ES 2 – $230/£199/€229; Quantum ES 4 – $330/£289/€329; Quantum HD 2 – $500/£429/€499; Quantum HD 8 – $1,000/£869/€999. FM

Generative drums in Ableton Live 12

Fire up your inspiration with Live 12's Generative Tools

When you grab that precious bit of time to make some music at the end of the day, staring at a blank MIDI clip can be uninspiring at best and daunting at worst. Every producer experiences mental blocks, and sometimes these can even make you afraid to open the DAW in the first place.

Ableton Live 12 offers some powerful new ways to generate both rhythmic and melodic ideas, and then to transform them into something unique and creative. In the updated clip view you have a whole range of Generative Tools to quickly create new material using a range of interesting methods.

Let's look at how to generate and manipulate rhythmic patterns to get you started. Don't stare at a blank clip any more – create some ideas to get you moving, then shift and morph those ideas in real time until inspiration smacks you in the face.

In our tutorial we'll start by generating a simple drum pattern. We'll then play with the Steps value and the Pattern and Density controls to create interesting new rhythms to get our projects, and our creativity, rolling.

ABOUT THE AUTHOR

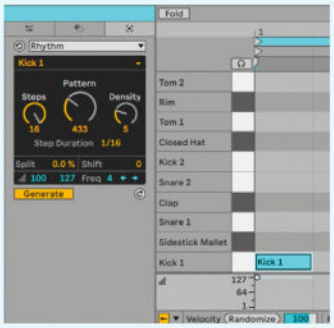
Simon Stokes is the owner of subSine | Academy. As an electronic music obsessive, touring artist and mixing engineer, he found his passion for synthesisers and drum machines in the late '90s.
subsineacademy.com

01

Load your favourite Drum Rack, create a MIDI clip and select the new Generative Tools tab. Choose 'Rhythm' from the top dropdown list to access tools for generating a new drum pattern. From the next dropdown, choose the drum sample you'd like to generate a pattern for.

02

Hit 'Generate' and you'll get an initial pattern! Change 'Step Duration' to 1/16 and initially set Steps to 16. Playing with the Pattern and Density controls will now generate rhythmic patterns for you in real time whilst you fiddle with them. These patterns will make more sense when we add more percussion.

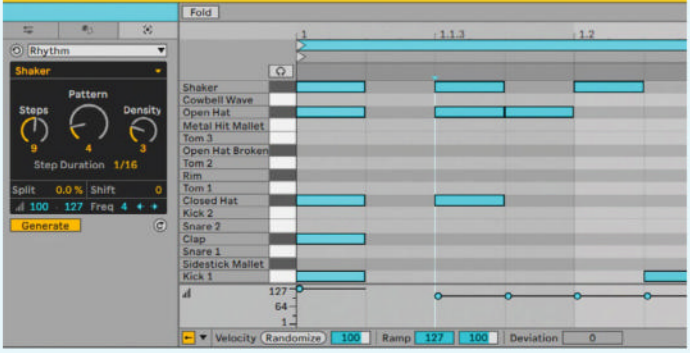


03

Click anywhere in the clip to deselect the notes you've just created. You can now select the next drum sound from the second dropdown list and you'll immediately hear them playing the same pattern as the previous sound. Get over to the Generative Tools tab again and start tweaking!

04

Keeping the Pattern and Density values the same, but changing the Steps value can produce interesting rhythms with a polyrhythmic feel of unbelievable simplicity. Often these variations will slot together perfectly with previously-generated ideas and create cohesive, dynamic and rhythmically-pleasing drums.



TALKING SHOP

Kasper Bjørke

The Danish producer discusses his love of Daft Punk and DFA ahead of new album *Puzzles*

Summer is just around the corner, and we can't think of a better way to welcome it than with Kasper Bjørke's *Puzzles*, a dreamy, carefree slice of sun-dappled disco-pop that's best enjoyed with a cold beer in hand. Featuring guest spots from a cast of friends and collaborators that includes Woolfy of DFA Records and Icelandic folksters Sísí Ey, the project finds Bjørke departing from his typically DAW-focused workflow to play and record the majority of instruments on the record live, a decision reflected in the dynamism and spontaneity of its sound.

Though the glitter of the disco ball has long shined on Bjørke's work, the shape-shifting Copenhagenite has inhabited more than a few creative guises throughout his two decades in the game, from the angular synth-pop of his 2007 debut through to the critically acclaimed *Fifty Eleven Project*, a sweeping, synth-laced neo-classical epic that made evident the extent of Bjørke's talents as both musician and producer. *Puzzles*, though, couldn't be more different in style from that project's brooding ambience; loose, limber and prizing groove above all else, it sounds more than anything else like Bjørke simply having fun.

We caught up with the producer to find out more about the making of the record and he was kind enough to leave us with three production tips.

When did you start making music, and how did you first get started?

"I started making music in 1998 with a friend of mine. We started on an Akai S01 sampler with a floppy disc and an Atari computer that had one of the earliest versions of Cubase installed. It was a super small lo-fi bedroom setup. We started out sampling old disco records, heavily inspired by Masters At Work and the whole New York soulful disco house sound at that time – as well as the whole French wave, including Daft Punk, DJ Falcon, Etienne de Crecy, Cassius, Motorbass, etc."

Tell us about your studio/setup.

"After having several studios away from my home, I have had a home studio for the past 14 years or so. I feel it is the most inspiring and flexible choice for me and we have a very large apartment so I have a room just for my studio. I use both plugins and hardware in my relatively small setup, but I often rent/use other studios for live sessions with various musicians, which is a big part of my production process.

"If anything, I would like an old analogue mixing desk – but then again, I'm happy with how my projects are sounding when mixing using various UAD plugins. I stem master with some of the best in the game, Stefan Lopazz in Germany, Joel Krozer at Six Bit Deep in Copenhagen and Taylor Deupree at 12K Mastering in the US – who all use the best outboard gear to get that last analogue warmth into my projects.

"In my own studio I have some of my all-time favourite and go-to synths, for example the Roland SH-101, D-50 and Juno-60. I also have stuff I rarely use like the Doepfer Dark Energy and the Elektron Analog Four mk1, and I often use Arturia and Korg soft synths like the Arp Odyssey.

"Honestly, I love my setup, but I do occasionally wish that I had a bigger space with much more equipment. On the other hand, I would lose the flexibility of having my studio at home, and in the end that's more important to me than having a ton of hardware that I would most likely rarely use.

"I feel like I've always done my best work not because of a certain piece of gear but because of an unexplainable burst of creativity that occurred in a moment in time, and I am also lucky enough to know some very gifted musicians who I have been working with for many years in their studios where I feel just as home as in my own."

What DAW (or DAWs) do you use, and why did you choose it?

"I've been working in Logic since version 4.7 came out in 2001. After both Cubase and Pro Tools I found that Logic has the best of both worlds for me personally, in terms of audio editing and MIDI programming. I guess if I wasn't so deeply into Logic I would switch to Ableton, but at this point I don't really see the reason."

What one piece of gear in your studio could you not do without, and why?

"My Adam A7 speakers. I haven't found another pair of speakers that I trust as much – and I don't need to blast music so loud. I use my Japanese Phonon headphones for reference and really like how they sound."

© Dennis Morton

What was the latest addition to your studio?
"I bought a Würlitzer 200 electric piano from 1968 around a year ago. I always wanted to get one for myself. The sound of a Wurli always makes my heart melt – and it's also great for the kids to learn how to play the piano, too! In terms of plugins, I recently got the Arturia Pigments synthesiser and so far I've been enjoying it, especially for sound design."

What dream bit of gear would you love to have in your studio?
"I would love to have a Moog synthesiser, as I have never owned one. Maybe a Model 10. I've never really immersed myself in modular synthesis, but I'm intrigued to really dig into it with this one, and I've tried it a few times in one of my friends' studios."

When approaching a new track or project, where do you start?
"When working on a beat-driven project, usually I work within the DAW from the beginning with an idea in my head for a chord progression, a synth theme or a bassline. I quickly build a drum pattern and work my way up from there. I often pull in a bassist or guitarist for a session and sample stuff from that – or I visit another studio to record, for example, saxophone or percussion. Then I take the stems back to my studio and edit, produce and mix.

"If it's an ambient project, it's much more about live jam sessions on various synths and effect pedals as a starting point. Usually I record in my good friend's studio – he has a brilliant setup for these kind of sessions, with the Oberheim OB-8, Minimoog Model D, a Buchla and an ARP 2600, plus effects like Roland Space Echo and Eventide Blackhole.

"We then record multi-track into Logic as one-take jams – and I then take these projects back to my studio where I work further with the stems, arranging and mixing, before doing more recording sessions for strings, piano, choir etc, that I arrange and add on top of the synths."

> "I'VE ALWAYS DONE MY BEST WORK NOT BECAUSE OF A CERTAIN PIECE OF GEAR BUT AN UNEXPLAINABLE BURST OF CREATIVITY"

Tell us about how you approached the production on your new project. Did you experiment with any new techniques or methods?
"Yes! *Puzzles* is the first project where I have gone into the studio with a drummer, the Danish musician and artist Rasmus Littauer (aka School of X), to recreate my programmed drum patterns on the entire album. This also meant using the kick and the snare. I've used live hi-hat patterns, toms and percussion on several projects before – but never the kick and snare!

"I have always used my own programmed sampled drum sounds because I always felt live drums didn't really sound good enough and have the punch that I wanted. But on this record, I wanted a live feeling throughout the production and was not aiming to do a club album anyway, so I set out to use the entire kit from the beginning, and I am very happy with the result.

"We recorded all tracks in one-takes, and hardly anything was quantised afterwards. This obviously only worked out because Rasmus Littauer is a brilliant and super-tight drummer, and since he has a super-nice setup in his studio – his drum kit, mics, the chain of plugins he has set up in his DAW makes it very intuitive to go in and record in this way.

"I took all the stems from our recording session back into my Logic projects and could easily work with them from there. I then had recording sessions with other musicians as well and built the final result this way, replacing soft synths and making a very analogue and live-sounding album."

Tell us about one artist or track that's inspired you the most as a producer and musician?
"I think it's a tie between James Murphy and Daft Punk. Daft Punk changed my life with *Homework* in the mid-'90s, and then in the early 2000s James Murphy and DFA records did it again when releasing *Losing My Edge* on 12". His production work for The Rapture on *Echoes* sounded fantastic. They really revolutionised dance music in so many ways and I guess I wouldn't be doing what I'm doing if it wasn't for either of them."

What are you currently working on?
"Right now I'm trying to find time to rework some of the songs from *Puzzles* to release a remix EP. I'm also working on compiling a compilation for my ambient imprint Sensitive Records, which I started last year. I also have some new collaboration projects in the pipeline; an EP together with my friend Prom Night and also a follow-up to the EP I recently released on the Japanese label Mule Musiq with my friend El Agua Es Profunda."

KASPER'S TOP TIPS

Use Logic's Overdrive on your snare and toms

1 **"I always add Logic's own overdrive plugin to my snare and tom samples. It's a fast and easy way to give it width and presence. Just set the drive to 6dB and turn it all the way up to 20kHz."**

Panning double-tracked lead vocals

2 **"During a vocal recording session, take the final single-track lead vocal and ask the vocalist to dub it. Once the dub has been recorded and the two takes align perfectly, pan them all the way to 64 L and R. This creates a natural stereo chorus effect and a lot of body to the lead. I like to use that technique on male vocals and falsettos."**

Add sub bass under your soft synth bass

3 **"Sometimes a soft synth bass sound doesn't have enough depth on the lower end around 25-80Hz, and even though you EQ it, it still doesn't have the right depth. I then find it useful to add a basic clean sine to get that boost in the lower end. Sidechaining it with the kick is essential so it doesn't get muddy!"** FM

Mike Parker **Dispatches**

Geophone, 2001

Mike Parker's deep, hypnotic techno bubbled up through a slew of celebrated singles as the millennium approached. But, as work turned to a full-length debut, he'd let his music spill a little looser, away from the restraints of traditional club arrangements.

"I just wanted that statement of an artist album," he says. "And to reach an audience that went beyond just DJs…"

Diving headfirst into his machine-driven, spontaneous approach to production, he'd jam out on his raft of Roland and Korg equipment, never glued to a computer screen, preferring to let the runway lights of his blinking analogue sequencers lead the way.

"Every single track is a live take," he says. "It's just the way it's always been."

There would be no edits and no overdubs on *Dispatches*. And none of his synths had patch memory.

"A big part of my creative processes was to approach them with a new sound every time," he says. "That does make it difficult to reproduce, live. But, it adds vital improvisation within the way the track evolves."

The resulting album is full of icy moods, playful time signatures, complex metallic tones, and overwhelming, evocative sound sculpting. All hinting at a direction the deeper strains of techno would pick up and run with in the following years.

"I never knew at the time I was influencing anyone," says Parker. "I was just playing in New York and making this music and sending it out.

"I was exporting records to Europe. This is before SoundCloud. I would ship 300. So, I figured someone was buying them."

Although a favourite of connoisseurs like Nina Kravitz, Ben Klock, and Richie Hawtin, the album sadly never outgrew cult status.

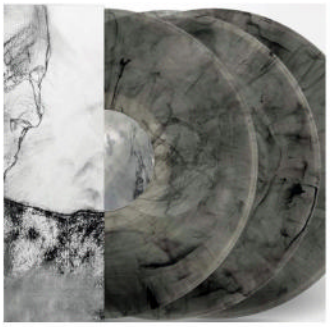
"It was just after 9/11. People were depressed and angry," says Parker. "I don't think anyone wanted to hear about a minimal techno album, so it was quietly released."

23 years later, *Dispatches* finally receives a vinyl release, with an all-new remaster and reissue.

This definitive edition dropped on Field Records, and will undoubtedly cement this seminal album's classic status, gaining it the wider recognition it's always deserved.

Words by Roy Spencer

Track by track with **Mike Parker**



Mike Parker's *Dispatches* album has just been given a timely reissue on the Field Records label. This definitive edition lets Voices From The Lake's Neel remaster the tracks, and comes presented alongside extra music from the early singles that accompanied the LP's initial release.

It makes for a fully immersive package, and is available now to download, stream, or purchase on limited edition triple vinyl, in black and 'smokey' pressings.

Triceratops

"A lot of the tracks on *Dispatches* have patterns that are divided into threes, not fours. They cycle, just with a slightly different timing.

"There had been other techno producers that did tracks divided in threes that I really liked. And I always thought that was an interesting way to conceive of a techno track. And, perhaps something more challenging for the audience. Like, 'how do you dance to that?'. I remember a few times I would play this track out. And, sometimes the audience would be like, 'What is this?'.

"The way I make tracks is often to have in mind that the DJ really needs to layer them. They're meant to be played with other tracks, you know? Instead of me bringing in the hi-hat after a certain number of measures, let the DJ do that by mixing in just the right selection of another track."

Amalgamated (Synchronous Mix)

"The title refers to the mixing of elements. And I was interested in pushing a limited number of sounds. Like, every sound counts.

"There's the main synth line, which is the [Korg] MS-20. It has a hardwired ring modulator that has a unique character. And it shows up a lot on the album.

"It's a semi-modular, which I really liked. You can approach it. And, without plugging in any extra patch cables, you can immediately get a sound from the portions that are hardwired. Then you expand it.

"I like that immediacy. You turn it on, change a few parameters on the knobs with the architecture of it as it's set up, and you get an interesting sound. Then you can connect it to other things.

"It's good for people who are starting out. A semi-modular, such as that, is a good way to really learn about modular synthesis."

Copper Variations: CV1 (Alternate Take)

"This is the first of the 'Copper Variations'. And it has a colder, metallic sound to it. I guess I was thinking in terms of metallic colours, at that time.

"Again, it's another one divided in threes. I think most of them are. It's driven by the [Roland] 808. And it has this sort of acid line that's sort of creeping in the background. And that's actually the Future Retro 777 [monophonic analogue synth].

"I really liked that. And, not just for the sound. But, because the sequencer is sort of identical to the [Future Retro] Mobius, which I also used on this album, because it's got that 16 step feel to it.

"I got the 777 in the late '90s, and it would have been about $900. The Mobius was not as expensive.

"My Mobius has developed some issues. It ran for 23 years, and then it sort of died. I loved that sequencer. I contacted Future Retro and I'm like, 'You know, I love the sequencer. Can you fix it for me? I'll pay you whatever you want!' And they haven't yet got back to me."

Reduction

"This got a bit of a revival, a few years ago, when I released a [2021, 20th Anniversary Remaster] version remastered by Neel [Giuseppe Tillieci]. I released it as a 12", with a B-side that I had discovered during the pandemic. It was sitting on DAT. And, I thought, now's the time.

"Again, we're on this division of threes, in the sequence. And you'll hear some vocoded sounds. They might remind you of a human voice, but they're not exactly identifiable as words. They're more like syllables. So, in a sense, they're more like notes.

"I tried to introduce sounds that are, at least partially, organic – unlike *Copper Variation*, as it doesn't have the cold metallic to it. It's got more of an otherworldly feel to it.

"I'm a big fan of the soundtrack to *Forbidden Planet* [1956]. [The composers] used ring modulators a lot. I have a huge interest in mid-century science fiction.

"I like to bring that up a lot. Because, that's just a game-changing accomplishment and inspiration. And they had to build their own equipment to do it."

"The title of the album refers to my isolation. But, when I started to play in Europe, people said it's probably good I wasn't living in Berlin, getting caught up in the whole scene. Because, that way I was very independent. I just did my own thing. Unaffected by what was going on, elsewhere else.

"I'm not criticising the Berlin scene. It's really amazing. If I'd moved there, I would have really enjoyed it, I'm sure. But, the side benefit of being isolated like that is that you end up finding your own way."

Copper Variations: CV3

"I think this one is even more based on vocoded sounds, and it's divided in fives. I like the breakdown, too. I think, sometimes, I wanted them to last even longer. But, I was always conscious of the fact that these are being played in venues.

"'How far can you push it?' I've tried to push it as far as I can. Of course, the DJ can always just throw something on top, if they have to. These are just tools.

"I think this is the most interesting of the 'Copper Variations'. It ends with the beat really dropping out, and it goes on for a while. Maybe that's what I wanted to do, all along.

"I was interested in working within this genre and seeing what I could push, and get away with. And test the limits of what you can do, especially in time signatures."

Drain Hum (Original Mix)

"This was based off an old sample I'd created years ago by scraping a piece of metallic light fixture.

"I sampled that into the Akai [S950] and looped it, and it made an interesting tone. But that sample was lost. So, I had that sound in mind when I made this track. I tried to recreate it. But, it wasn't exactly the same, but it was close.

"There's an extreme low frequency bass sound in *Drain Hum*. I wanted to push that. I wanted to make a sound that would make the speakers move.

"I mean, in a really weird way, it was influenced by hip-hop. Because, the cars driving by my apartment were playing very loud hip-hop. And you'd feel the vibrations of the bass frequency. I wanted to do something like that.

"And then, the [Roland] 303 is really just sort of in the background of that track."

Amalgamated (Extension Mix)

"OK, so this one is sort of a dance between the MS-20 and the Sequential Circuits Pro-One.

"I love the MS-20. It's great that Korg reissued that recently. I think it's fantastic. I still have the original one. But, they make it now with, like, different colours. And I was tempted to get one, just because.

"With *Amalgamated*, again, we have this thing divided into threes. Or, six, whatever [laughs]. It keeps it interesting, to me.

"This is still a really great genre to work in. I think that the limitations of it, after all these years – I still like them.

> "IN A REALLY WEIRD WAY, IT WAS INFLUENCED BY HIP-HOP"

"And that lead sound in here is just a bent note. I think I was trying to humanise it. Or, maybe, it sounds like an animal, or something. That's kind of typical of me to do."

Blue Equals Black

"This is an ambient track. But, I wanted it to be very brief. And, it was very much improvised.

"That one, I probably did in one take. And, it was just as it was captured. The digital audio tape was running, and it was on record. And, looking back on it, I thought it worked. It wasn't overdone. And, it really is like an interlude. I think it helped with the pacing.

"I spent a lot of time agonising over the running order of this album. That was my summer of 2001.

"I was actually worried that the album was going to be too long. The first version, of course, is that CD format.

"In those days, albums would push the limit of whatever it was, like 79 minutes that you can get on a CD. And, I was a little worried that if I did that, then it would just be too long."

Voiceprint: Voice One

"This one is based on a voice, and it's through a vocoder.

"But, again, it's not meant to be a word. It's meant to be a sound. And it's meant to be evocative of a voice, but not a specific piece of dialogue or a lyric. It's the voice as an instrument.

"So, it's a vocoded sound, but I filtered it through the Moog Micromoog, because that has an external input. And it has that classic Moog 24dB ladder filter in.

"It's all about that filter that Bob Moog patented all those years ago. It has a natural, naturalistic sound to it. I mean, I can't live without it, this thing, you know? I bought the external one.

"So, that's where the changes come through. That's the filtering of it. The changes you hear are in the low-pass filter."

Voiceprint: Voice Three

"This was the improvisational take of running sounds, through a vocoder. Roland made a keyboard that was also a vocoder. Kind of a 2-in-1 deal, called the VP-330. That's the vocoder on this. In fact, it's all the vocoded sounds on the album.

"I think it gives… You know, I'm trying to think of the right metaphor here. I mean, it kind of sounds like someone trying to communicate from a distance, I think. That's, you know, the theme of *Dispatches*.

"I never thought all those years ago that there would be a re-release, 23 years later." FM

WANT TO KNOW MORE?

For all the latest music, including the vinyl debut of *Dispatches*, head to: **mikeparker.bandcamp.com**

In the studio with Mike Parker

"I was using a lot of the stuff you'd expect. I mean, Roland gear like the 303, 606, 808, and the TR-909. Oh, and the VP-330, for the vocoder. And an old sequencer called the Roland MC-50.

"A big part of the sound on *Dispatches* comes from Korg, though, especially the MS-20, which is all over that record. Then the MS-10 and 50. And the Korg Mono/Poly, which is a synth I've owned for all of my adult life. I bought it as a teenager, back in the '80s. I've kept it, and had it restored a few times. It's a synth I just can't part with.

"Then, one rarity on that record, was the EML Electrocomp 101, with its 6dB filter, for that kind of harsh sound. What else? I also used an Akai S-950 sampler. A Jomox XBase 09 drum machine. A Sequential Circuits Pro-One. A Moog Micromoog. And a lot of the other sequences that you hear come from Future Retro's 777 and Mobius."

LIKE IT? TRY THESE...

Louis and Bebe Barron
Forbidden Planet

Soundtrack to the cult film with the epic electric score, credited to this pioneering husband and wife team. A huge influence on Parker's music.

ADD THESE TO YOUR PLAYLIST:
'Main Titles - Overture', 'Ancient Krell Music', 'Battle with Invisible Monster'

P. Children
P.Ch3

Parker made industrial noise in this trio back in 1989, planting many a sonic seed which would later blossom in his solo work.

ADD THESE TO YOUR PLAYLIST:
'Aura', 'Bolero', 'Deadbeat'

Mike Parker
Dispatches

This year's reissue features all the classic tracks, remastered, plus some huge rarities on wax for the first time.

ADD THESE TO YOUR PLAYLIST:
'Copper Variations: CV1 (Alternate Take)', 'Voiceprint: Voice Two', 'Dissolution 99 (Original Length)'

Voices From The Lake Feat. Donato Dozzy & Neel
Voices From The Lake

Neel from this outfit just remastered *Dispatches*. Peep the ambient techno on this 2012 album to see why he's an obvious choice.

ADD THESE TO YOUR PLAYLIST:
'Lyo', 'Circle', Twins In Virgo'

Mike Parker
Lustrations

2013's follow-up LP, on the now sadly defunct Prologue label, was another grand outing for Parker's experimental and ritualistic strain of raw techno.

ADD THESE TO YOUR PLAYLIST:
'Lustration One (Khonsu)', 'Lustration Six (Megalith)', 'Lustration Ten (Pressure Zone)'

musicradar.
The No.1 website for musicians

Love this magazine?
You'll love musicradar.com

Thousands of gear reviews and killer video demos

Tips and techniques to help you create your own sound

musicradar.

YouTube

SUBSCRIBE TODAY AND SAVE 45%*

+NEW DIGITAL ACCESS**

CHOOSE YOUR PACKAGE...

PRINT ONLY

+NEW DIGITAL ACCESS**

Only

£25.74

every 6 months by Direct Debit.

DIGITAL ONLY

Only

£20.55

every 6 months by Direct Debit.

SUBSCRIBE AND ENJOY THESE BENEFITS...

NEW! DIGITAL ACCESS TO 130+ ISSUES when you subscribe to print!**

FREE DELIVERY straight to your door or device

SAVE MONEY on the shop price

YOU'RE IN CONTROL – manage your subscription online via our dedicated self-service site **+ NEVER MISS AN ISSUE!**

Find your subscription at www.magazinesdirect.com/FMU/D35T

or call 0330 3331113 and quote '**D35T**'

Terms and Conditions. *Offer closes 30th July 2024. Price is guaranteed for the first 6 months, please allow up to 6 weeks for the delivery of your first subscription issue (up to 8 weeks overseas) the full subscription rate is for 6 months (6 issues) and includes postage and packaging. Pay £25.74 for 6 months, *saving 45% on the cover price. Savings are based on the cover price. Payment is non-refundable after the 14-day cancellation period. **Access to the digital library will end with your subscription. For full terms and conditions, visit www.magazinesdirect.com/terms. For enquiries and overseas rates please call: +44 (0) 330 333 1113. Lines are open Monday-Friday 8:30am-7pm, Saturday 10am-3pm UK Time (excluding Bank Holidays) or email: help@magazinesdirect.com. Calls to 0330 numbers will be charged at no more than a national landline call, and may be included in your phone provider's call bundle.

ALBUM OF THE MONTH

Hovvdy, Hovvdy

Arts & Crafts

If we were asked to put Texas-hailing duo Hovvdy (pronounced 'Howdy') in a genre-shaped box, it would be tempting to peg them as 'lo-fi indie'; the band's early records were all homespun charm and tape-worn poignance, shaped by a DIY approach that has endured through five successive albums. Their fifth is the self-titled *Hovvdy*, released on Arts & Crafts in April, and while they've preserved something of the gently fuzz-scuffed aesthetic heard on *Taster* and *Cranberry*, we'd be doing a disservice to the record's carefully considered production to call it "lo-fi", a phrase that brings to mind entire albums laid down with a four-track in someone's bedroom.

The 19-track project was recorded with frequent collaborator Bennett Littlejohn and the Grammy-nominated Andrew Sarlo, a producer that's best known for his work with Big Thief, Flyte and Dijon. Sarlo has said that for this album, he and the band devised a method they called 'Operation Magma', recording exclusively with iPhones and a Zoom H5. "This allowed us the opportunity to record in a variety of spaces like closets, mini vans, bedrooms, bathrooms, outdoors," Sarlo said on Instagram. "All while grabbing all the fun voice memo nuances that happen when the iPhone mic is hot."

Hovvdy's Will Taylor says the aim was to "encapsulate what it felt like to be in the room when we're playing". They've achieved this and then some; the production makes songs like *Angel* and *Portrait* hit twice as hard, the whispered intimacy of the on-location recordings blown up to widescreen proportions by Sarlo's masterful touch in the studio.

Matt Mullen

ADD THESE TO YOUR PLAYLIST
Meant, Til I Let You Know, Bad News

VERDICT 9

ON OUR PLAYLIST

REISSUE

Dettinger, *Intershop/Oasis*
Kompakt

Intershop*, from German producer Dettinger, was the first full-length album released on Kompakt back in 1999. It's a fitting tribute to what made the label – and the network of artists and aliases behind it – so influential around the turn of the millennium. Built around stripped-back, minimal beats and creative, ethereal use of sampling, the record joins the dots between dub techno, ambient and minimal. That album has just received a freshly remastered vinyl rerelease alongside its follow-up, *Oasis*. Of the two, *Intershop* still shines for its simplistic immediacy, but *Oasis* feels more accomplished. While the tracks are still incredibly simple in structure – built around the sort of grainy but groovy loops that would go on to inspire The Field – there's a broader and brighter sound palette to *Oasis*. Listening back to back in 2024, it's remarkable how fresh both albums sound still, and how easy it is to trace their influence throughout the past 20 years of electronic music. *Si Truss

ALBUM

Legowelt, *Like A Song From Your Dream*
L.I.E.S

Few electronic artists are both as prolific and as consistent as Danny Wolfers, aka Legowelt. His latest full length sees the Hague-based artist returning to L.I.E.S with eight tracks of sleek, funky electro full of raw, distorted drum machines and squelching, delayed synths. Opening track *Enchantress 1200* is like a playful statement of intent with its looping Amiga-referencing vocal sample. The brilliant synthetic funk of *ZILOG For The World* provides the highlight here, though. *Si Truss*

TRACK

L.B. Dub Corp, *Only The Good Times (Burial Remix)*
Dekmantel

A pleasant surprise of a release. Burial serves up a typically textural and spacious remix to this highlight from Luke Slater's latest, classic house-inspired album as L.B. Dub Corp. Compared to recent Burial releases, which have leaned heavily into fractured ambience, his take on *Only The Good Times* is surprisingly direct, putting the emphasis on a steady kick and pulsing ambient synths that bring the euphoric positivity of the original to the forefront. *Si Truss*

RECOMMENDED

Lanark Artefax, Metallur

AD93

ALBUM

When an artist's press materials tell you that an EP is an "insurgent, elemental, time-smearing of hyperspace", even the most open-minded reviewer might feel a twinge of cynicism. A few minutes into Scottish producer Lanark Artefax's latest for AD93, though, and all such doubts have been erased. Such is the mind-expanding complexity of its synthetic constructions that listening feels like observing some futuristic scientist at work, bending the girders of reality with esoteric technology.

Opener *Surface Light* time-stretches alien vocals out into a warped atmosphere, before the towering, nebulous pads of *Tris* and *At the Bay* make it abundantly clear that somebody needs to commission this man to score an arthouse sci-fi. *Matt Mullen*

VERDICT 9

Actress, Statik

Smalltown Supersound

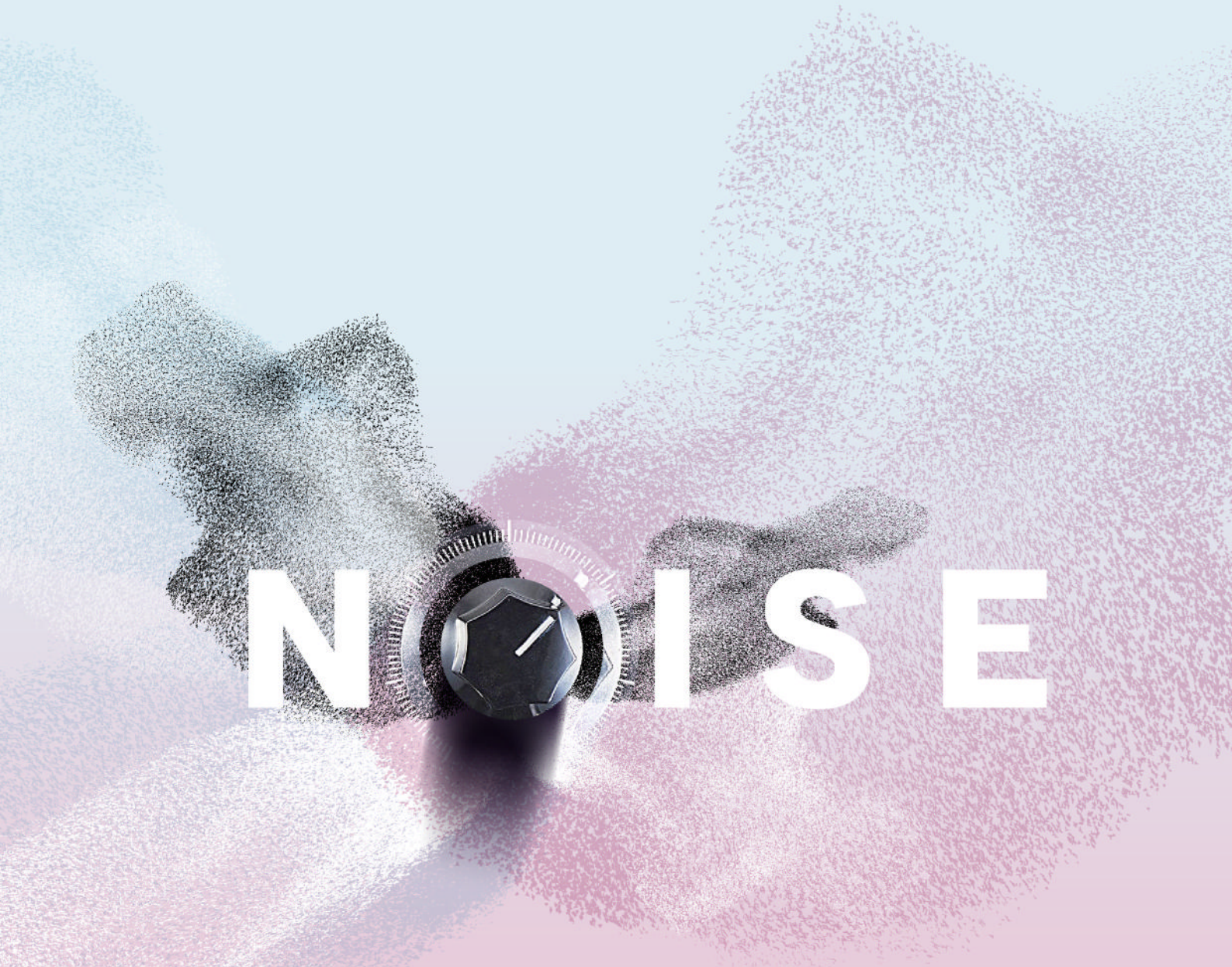
© Ola Rindal

ALBUM

The latest album from British producer Darren Cunningham was apparently created in "an extensive flow state". Listening to the album, you can believe this; *Statik* follows hot on the heels of last year's *LXXXVIII* and presents a looser, more immediate take on Cunningham's sound. Tracks lean toward spacious ambience and, even when propelled by drum machines, sit under layers of drifting hiss and modulating lo-fi synths.

Tracks rarely contain more than a handful of elements, which on the whole gives *Statik* a trance-like feeling of repetition, particularly on the bass-heavy *System Verse*. There are times when this simplicity leads to *Statik* feeling a touch undercooked, but you're never too far away from a moment of inspiration like the wonky synth arps that lift *Cafe del Mars* to its climax. *Si Truss*

VERDICT 7


NOISE

From white noise to incidental ambience – 'noise' plays an important role in sound design, and could be the secret weapon for bringing your tracks to life

The term 'noise', in general use, can often have negative connotations, implying something unwanted or unpleasant. But as music makers we shouldn't think of it as such.

Many musicians throughout the past century have explored the use of everyday noise as a credible musical instrument – from Luigi Russolo's orchestral-industrial experiments in the 1910s, through to the '40s musique concrete movement, and brought into the mainstream through the sonic experiments of Phil Spector, the Beach Boys and The Beatles in the '50s and '60s.

Noise is even an established genre in its own right. While music tagged with genres like noise, noise rock or drone is still thought of as experimental, it's not hard to see elements of it creeping into the mainstream, particularly in cinematic soundtracks from the likes of Trent Reznor and Atticus Ross or the prepared piano scores of Hauschka.

Whatever the context, 'noise' is a powerful and useful building block within sound design and music production, capable of adding tension, texture, character and movement to our tracks. And thanks to modern software techniques, noise has never been easier to access and experiment with.

WHAT'S THAT NOISE?

Before we get stuck into the hows and whys of using noise in music production, it's worth taking a quick step back in order to define what, exactly, we're talking about when we refer to 'noise'. Obviously, all sound is technically noise, although generally we tend to differentiate between intentional sound, such as direct speech or music, and unwanted, unpleasant or incidental sound, which we refer to as noise.

Within music making, noise can have several different definitions. Synths often come equipped with a dedicated noise generator or an oscillator with a noise mode. Generally speaking, these tools are designed to create white noise. Standard synth oscillators operate at a certain frequency, with an audible pitch defined by the fundamental frequency, accompanied by varied combinations of overtones, depending on the waveshape. By contrast, a white noise generator creates sound at an equal level right across the frequency spectrum. Just as white light contains all colours across the visual spectrum, leading us to perceive it as colourless, white noise is flat across the frequency spectrum so it has no definable pitch. Because of this, noise is a very useful sonic raw building block that we can chisel away at using filters and amplitude modulation.

There are a few slight variations to white noise. The most common you're likely to encounter is pink noise, which decreases in level as it goes up the frequency spectrum, meaning that the higher frequencies are less harsh and lower ones seem amplified. Other variations include brown, violet and green noise, which are each weighted differently across the frequency spectrum.

Whereas noise in a synthesis context is generated intentionally, noise is also often an unwanted side effect of recording. All out-of-the-box audio gear has a 'noise floor' – a constant low level of electrical hum or hiss. This is often inaudible when hearing the gear in isolation, particularly in the case of more modern hardware, but can still be amplified by gain or compression and cause cumulative mix issues. Noise can also manifest as additional sonic artefacts while recording or sampling, such as mic bleed or overspill, digital glitches or the mechanical noise of recording directly to tape.

Our definition of noise here also encompasses the incidental noises heard in the world around us, often recorded or sampled to musical effect. These could be overheard conversations, snatches of birdsong or rain, mechanical noise or a multitude of other sources.

So what do these different definitions of 'noise' have in common? It's not true to say that all are unwanted, at least not in every context, and they're not all unpleasant – few would argue with the notion that there's something soothing about the noise of rain water or the crackle of a vinyl record. While most are unpitched – ie, lacking a recognisable fundamental frequency – that's not true in all cases; natural sounds are often very musical, and the glitchy bleeps and resonances of a modular system can certainly stray into the category of 'noise' while still being recognisably tonal.

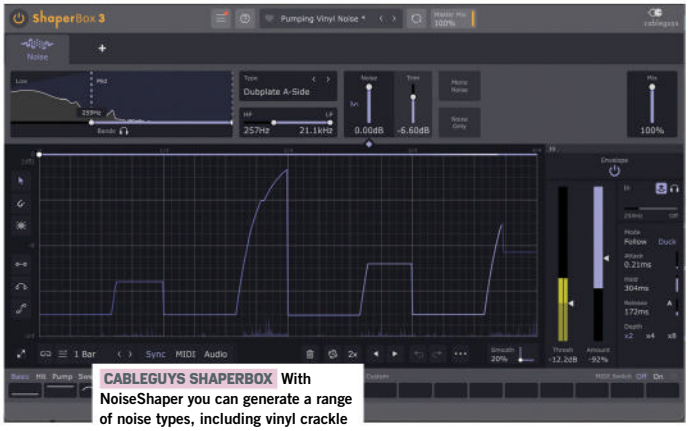
What links these different forms of noise – at least in terms of why they're musically useful – is a level of unpredictability or randomness. Whether used to create texture, as a palette for sound design, or even as a modulation source, noise can offset the often rigid predictability of music making tools, whether that's through offering inharmonic sound to embellish the tuned pitch of an instrument, or as an unpredictable texture set against the predictable rhythms of sequenced music.

Noise for texture and ambience

MODERN MUSIC GEAR can be very precise and very clean. Particularly when working within the box, extraneous noise is rarely an issue, and pitch drift or inaccurate tuning only occurs when specifically emulated. As a result, music made entirely using software or contemporary digital gear can end up sounding sterile and lifeless for reasons that it's difficult to put a finger on. While some analogue purists might tell you this comes down to digital gear lacking character or 'soul', in reality it's often the cumulative effect of lots of very accurate instruments and effects working exactly as they're supposed to.

Our ears are used to hearing changes and variations in music, even when it's subtle and almost imperceptible. This is why modulation and automation are such an important part of bringing a track to life. It's also why, if every element is precisely tuned and programmed to sit exactly on the beat, the result is a monotonous sounding recording.

Layering noise into your tracks is an excellent way to counteract this.



CABLEGUYS SHAPERBOX With NoiseShaper you can generate a range of noise types, including vinyl crackle

The inherently random nature of noise – be it generated white noise or an ambient recording – can go a long way towards adding an element of unpredictability to a composition, even when mixed in at a very low level. What's more, the frequency-spanning nature of noise makes it perfect for filling gaps around other elements, helping to thicken up a mix. Take, for example, the low-end rumble technique popular with big-room techno producers. While this is often achieved by applying reverb to a kick, to fill out the low end space with washed out lower frequencies, a similar effect can be achieved by pitching down and filtering any noise recording so that it fills out the sub frequencies, creating weight without creating a defined bass pitch. If attempting this, be sure to use compression or automation to duck your 'rumble' around the kick and other sub-heavy elements, or you risk creating an overloaded mass of low frequencies.

Layering noise recordings within a track to create texture and ambience has long been a tried-and-tested technique within electronic music. A common approach is to layer recordings of vinyl crackle or tape noise into digital productions, in order to replicate an element of the lo-fi character that would come from analogue gear or vinyl sampling. In all honesty, as effective as it can be, this technique of faking a 'vintage' sound feels a bit overused in 2024, and arguably a little dishonest – but there are plenty of ways that we can apply a similar idea in a manner that is more unique and creative.

> THE RANDOM NATURE OF NOISE CAN GO A LONG WAY TOWARDS ADDING AN ELEMENT OF UNPREDICTABILITY TO A COMPOSITION

For one, try doing the opposite of what standard recording advice suggests, and boost the noise inherent in your recordings. Take any external recording source – be it a hardware instrument, external effect loop or mic source – and boost and compress the input until any electrical or background noise becomes a prominent part of the recording.

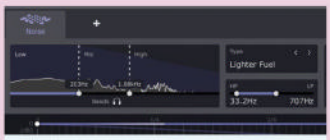
Alternatively, ambient recordings from the world around us make a fantastic source of layered texture. Monolake's dub techno classic *Hong Kong* is a brilliant example of this, in which recordings captured in the titular city are layered over electronic beats to create an all-round more natural-sounding take on dance music. Burial's music is another prime example of this in action. In both these cases, the ambient recordings are brought to the forefront of the mix, at times providing rhythm and character as much as ambience. Even at almost inaudible levels, however, mixing ambient recordings into an electronic track can go a long way to giving the mix a realistic sense of 'place'.

A more recent example of a producer known for these kinds of techniques is Fred Again.. whose tracks often feature short looped recordings. These might be overheard chatter, street noise or general ambience, but are usually looped in order to create a rhythmic hook as much as a sense of ambience.

Rhythmic ambience with Cableguys NoiseShaper

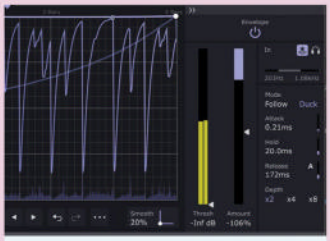
Part of Cableguys ShaperBox, this modulation-centric effect is a must-have for noise fans

As we explore opposite, there are plenty of ways to process noise recordings using just the basic tools within your DAW. For a specialised tool, however, NoiseShaper – part of Cableguys' ShaperBox package – is hard to beat. One bonus of NoiseShaper is it comes stocked with a broad variety of noise generator types, ranging from white noise through to vinyl or tape crackle, natural sounds and household objects. It's worth being aware that ShaperBox functions as an effect processor, so generally requires an audio input to process. By disengaging NoiseShaper's envelope triggering and using 'noise only', we can use it to generate sound without the need for an input though.



MULTIBAND NOISE

ShaperBox functions across three adjustable frequency bands, and NoiseShaper can filter the noise within each of these further, meaning we can, for example, create a low rumble and top-end hiss simultaneously.



ENVELOPE TRIGGERING

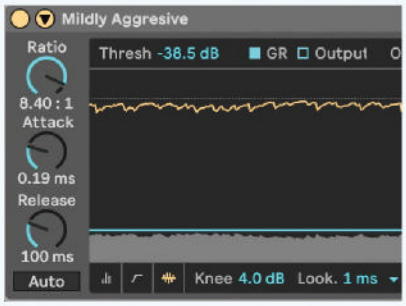
By sending a sidechain input to trigger NoiseShaper's envelopes, we can tailor each frequency band to respond to a kick or drum loop, either ducking out of its way or pumping in time.

SHAPED SWEEPS

ShaperBox's distinctive curve shapers can modulate most parameters in NoiseShaper. Applying a slow build or fall to the noise's level or filtering is a quick and easy route to classic FX.

6 PROCESSING TECHNIQUES FOR AMBIENT NOISE

While some ambient recordings might sit perfectly within your track as is, more often than not, a little processing will help them work well within your mix. Here are some standard approaches, making use of common tools within your DAW. We've used Ableton Live in our examples, but similar tools are available in almost any application



Compression

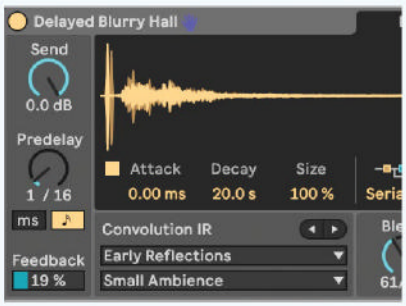
Pure white noise usually has plenty of power and little in the way of dynamics, but ambient recordings can be far softer and less consistent. Some fairly hard compression will help squash everything and make your noise recording more consistent.

Sidechaining

Frequency-filling noise can get in the way of other track elements, so sidechained compression or gating is a must in order to avoid a muddled mix. This can also be used to add rhythm to your noise textures though, making them part of the groove.

EQ and filtering

Particularly when working with frequency-spanning noise, it's important to use EQ and filtering to remove anything unwieldy. In the case of vinyl crackle, lower frequency rumble can be cut altogether without losing the 'texture' brought by the sample.

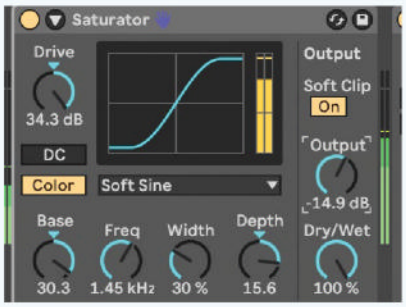


Spatial effects

Some ambient recordings will likely have a natural reverb baked into the recording. Still, it's worth experimenting with reverb and delay, which can add extra depth and movement to your ambient backdrops, and help them gel with the rest of the mix.

Modulation effects

Add extra movement to your noise layers and ambient sounds with modulation effects like chorus or slowly churning phasers or flangers. LFO-driven filter modulation is a great choice too; anything to keep your textures evolving over the course of a track.



Distortion

Distortion can do really interesting things to ambient noise recordings depending on the source and how it varies. Try aggressive distortion in place of compression, before any EQ or sidechained effects, to create something rough and gritty you can then tame and shape.

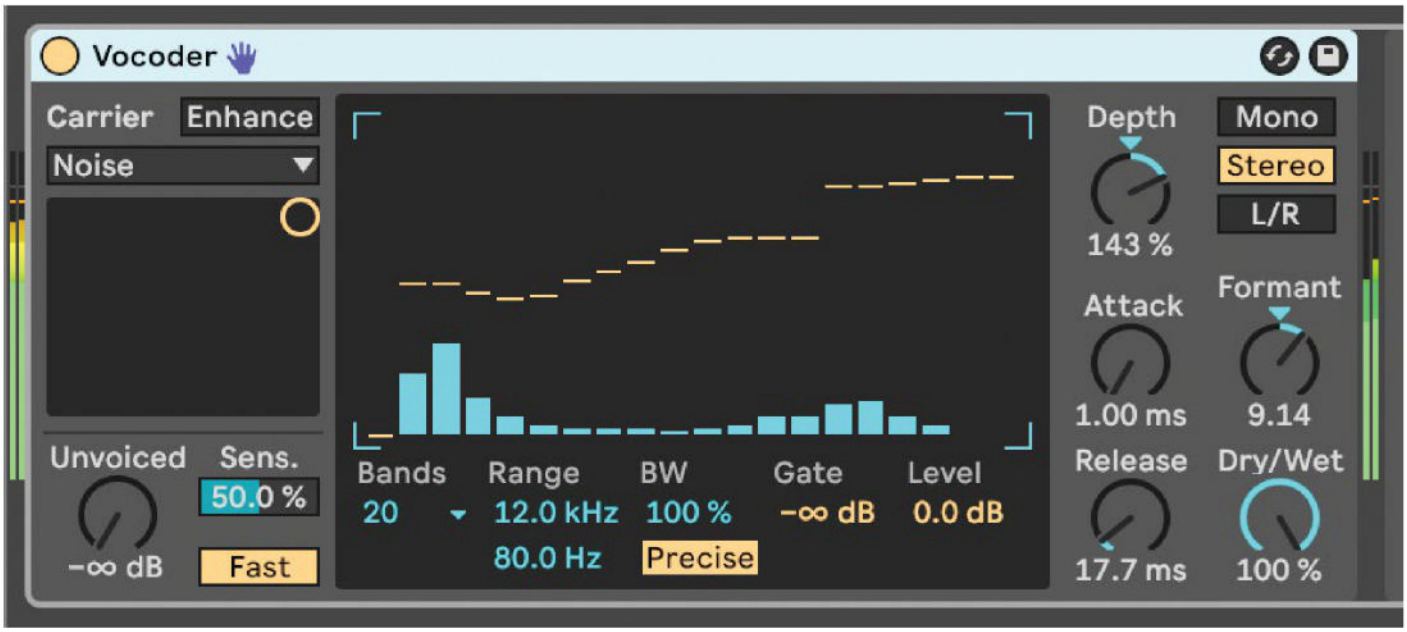
Noise and percussion

NOISE'S ATONAL NATURE makes it the ideal starting point for electronic beat-building. The synthesised drum sounds created by Kraftwerk paved the way for popular drum synthesis techniques and commercial drum machine technology, a lot of which utilises noise as a source for sculpting hi-hat, clap and percussion sounds. Electronic cymbals and hats are reasonably straightforward to synthesise: by shaping a noise oscillator's amplitude via the synth's envelope, then applying a modulated filter, you can replicate the characteristics of basic closed and open hi-hats, as well as longer cymbals and rides.

More complex, real-world drum sounds will often be made up of several elements: imagine a kick's initial transient punch or click, a tuned body/tail, then any extra subtle ambience captured from the initial recording environment. Noise is an ideal tool when replicating these elements through synthesis and layering techniques – whether to synthesise the initial transient click of a kick, or the top-end 'splash' of a snare. Layering noise also allows you to mix in extra 'fizz' behind a dull drum sample or recording, adding power and thickness in a mix.

One often overlooked tool for noise layering is the vocoder. Vocoders use one signal to modulate another, most commonly using a human voice to modulate a synth tone. Many vocoders feature a noise generator that can be used as a carrier signal (ie, replacing the synth in the above example). Try using this, and route a drum pattern as the modulation source. This is great for creating fizzing, splashy percussive sounds. Process the output with a little reverb and layer it with the dry drum loop as a way to add character and extend the tail of your drums.

A similarly handy tool for blending percussion and noise is convolution reverb. Try loading a recording of noise in as an impulse response for your favourite convolution tool, and then use it to process a drum pattern. Using simple white noise can create splashy reverb tails, but when used with more distinctive noise sources, such as rhythmic crackles, mechanical sounds or natural recordings, this can be a powerful creative tool, imparting some of both the character and rhythm of your noise sample onto the drums.

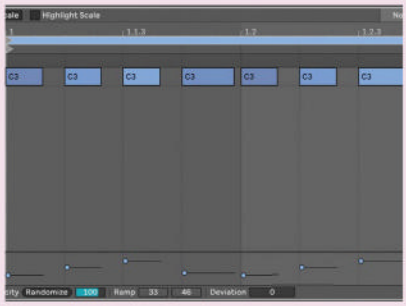


Many vocoders feature noise generators and can be handy noise layering tools

USING NOISE TO SYNTHESISE DRUMS

Almost any synth with a noise generator can be used for basic drum design. It helps if your synth houses a multimode filter and drive stage though. While a low-pass filter is fine for 'standard' hi-hat and clap synthesis, other filter variants can add a modern twist to traditional noise-based percussion – we'll demonstrate this with a comb filter and drive, but feel free to experiment with other external effects too. Also, remember that drums are usually heard in a realistic space, so use reverb treatments to take off that dry edge

1 Begin with a synth that features a noise oscillator, filter and flexible modulation options. After disabling the synth's 'regular' oscillators, we engage a white noise oscillator source. The synth is now only outputting white noise.



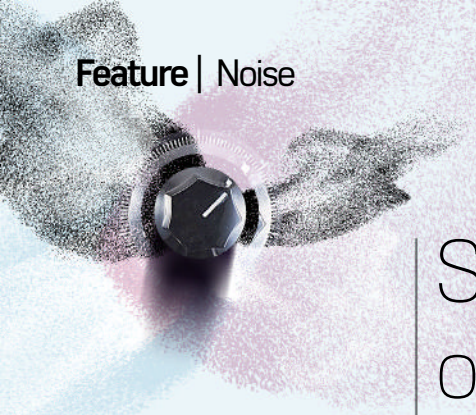
2 A 16th-note MIDI pattern is sequenced on the synth's channel. Velocity is an ideal modulation source when programming hi-hat accents, so we adjust our notes' velocity values first. Note lengths are also tweaked, giving the pattern subtle variation and groove.

3 Tight amplitude envelope settings are dialled in and a low-pass filter – also with short envelope settings – clamps down on the notes, reducing them to plucky closed hi-hats. Velocity is assigned to both envelopes' decay, slightly opening out the notes with higher velocity values.

4 A second instance of our synth is loaded, playing offbeat notes of white noise. A high-pass filter, with plenty of resonance applied, thins out the noise. This creates a weedy open hi-hat layer that sits nicely over our closed hats.

5 Another synth instance plays notes on beats two and four. A fast envelope modulates the pitch of the synth's comb filter, which we use in band-pass mode. A heavy dose of tape-style drive then crunches up the snare.

6 EQ, panning and subtle saturation effects add character to the separate elements. Synthesised drums often sound dry and unnatural, so we'll add realism with two reverb returns – a shorter room setting for the hi-hats, and a longer reverb for the snare.



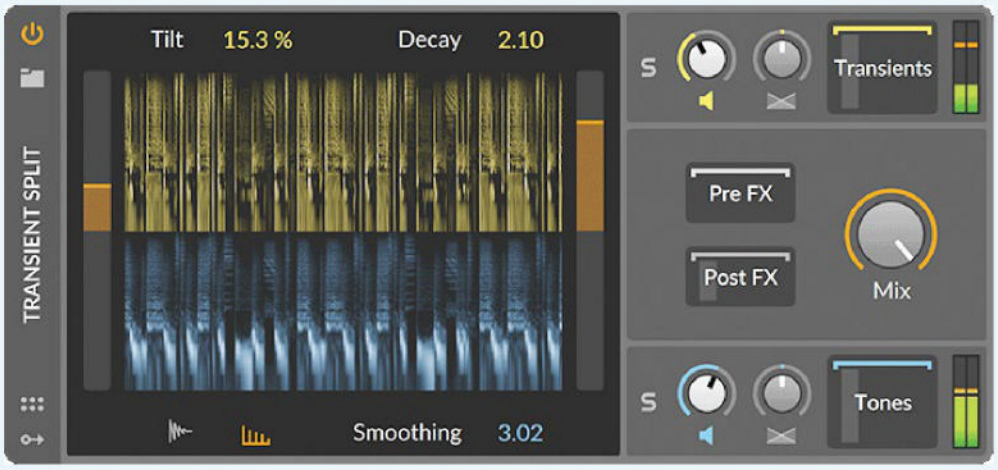
Separating noise from other elements

IN RECENT YEARS we've seen a rise in software tools that let us separate noise – ie unpitched elements of a sound – from tonal elements. RipX, from Hit'n'Mix, is one such application. This uses machine learning in order to separate the two elements of a source sound. This has obvious uses for mixing and post production, making it easy to remove unwanted noise from a poor quality recording, say. But it can also be used creatively, for example by boosting noise elements in a sound to unnatural levels in order to bring out unique character.

Possibly our favourite tools in this realm are Bitwig Studio's suite of Spectral Effects. Unlike tools like RipX, which generally work offline – ie they analyse and then separately output the pitched and unpitched elements – Bitwig's spectral tools are splitters that allow for 'live' processing of different elements of an audio feed. These tools can split sound in various ways, including separating different frequency bands and loud versus quiet elements. When it comes to working with noise, however, there are two Spectral Effect devices of note.

The first of these is the Transient Split device, which allows users to separately process the percussive transients and tonal body of a sound. Broadly speaking, when it comes to drums and percussion, it's the transient elements that tend to be more noise-like, while the body – particularly in the case of kicks and snares – often has a more defined pitch. As well as adjusting the balance of these elements, the Spectral Effect devices allow for individual effect chains to be applied to each. There's no end of ways to be creative with this, but one particularly appealing technique is to apply creative reverb or delay just to the noise-based transient elements of a sound.

Bitwig Studio's Spectral Effect devices approach the separation task by splitting transients and harmonics



Similar in scope is Bitwig's Harmonic Split device. This divides an incoming signal into odd and even harmonic feeds, but also has a third output for non-harmonic sounds. This can be fun for isolating the noise elements and extracting them from a more complex loop – a low-quality vinyl sample, for example – or distorting just the non-harmonic noise elements of a sound.

MOOG DFAM The noise generator on your device or module can fulfil a range of tasks besides thickening

How to...

CREATE A CLASSIC FX SWEEP

The 'noise sweep' is a bread-and-butter synthesis technique. Take a raw white noise signal, apply a resonant low-pass filter, then open and close the cutoff and resonance to create wind-like rises, whooshes, bursts and impact FX that can be used to transition between, emphasise or intensify sections of a track. You can do it using a synth, or by using a white noise sample and a filter plugin.

Generally speaking, noise FX like these work well when used to fill out the stereo field, so generously apply widening, auto-pan, delay, reverb and modulation effects. Increase or decrease an auto-panner's speed and intensity to ramp up excitement before a drop, and slather a sweep in reverb and delay to soften its effect, sinking it into the track. Rhythmically, you can always get things moving with trance gating and sidechain pumping.

USE NOISE IN A SYNTH PATCH

Many synths have a noise generator, but why use one? Aside from the percussive uses already discussed, dialling in a little noise can add air and punch to your synth patches. This works particularly well coupled with a modulated low-pass filter. With a lower cutoff, any noise in your patch will likely be inaudible. As the cutoff opens, however, the addition of noise will bring thickness and texture to the sound. With a short filter envelope, this is a great way to add percussive 'punch' to a patch.

MIX WITH PINK NOISE

Some mix engineers swear by using pink noise as a reference point for mixing. It works like this: instead of pulling up a reference track or part of your own mix to set your levels against, use a noise generator outputting pink noise. Set this output so that it's hitting a sensible level on the master output. Now solo each track or bus in your mix in turn, and set it so it's just audible over the pink noise. Do this for each track individually, and you should have a good starting point mix for your track, whereby all your channels are roughly balanced with plenty of headroom left. A decent state to mix from.

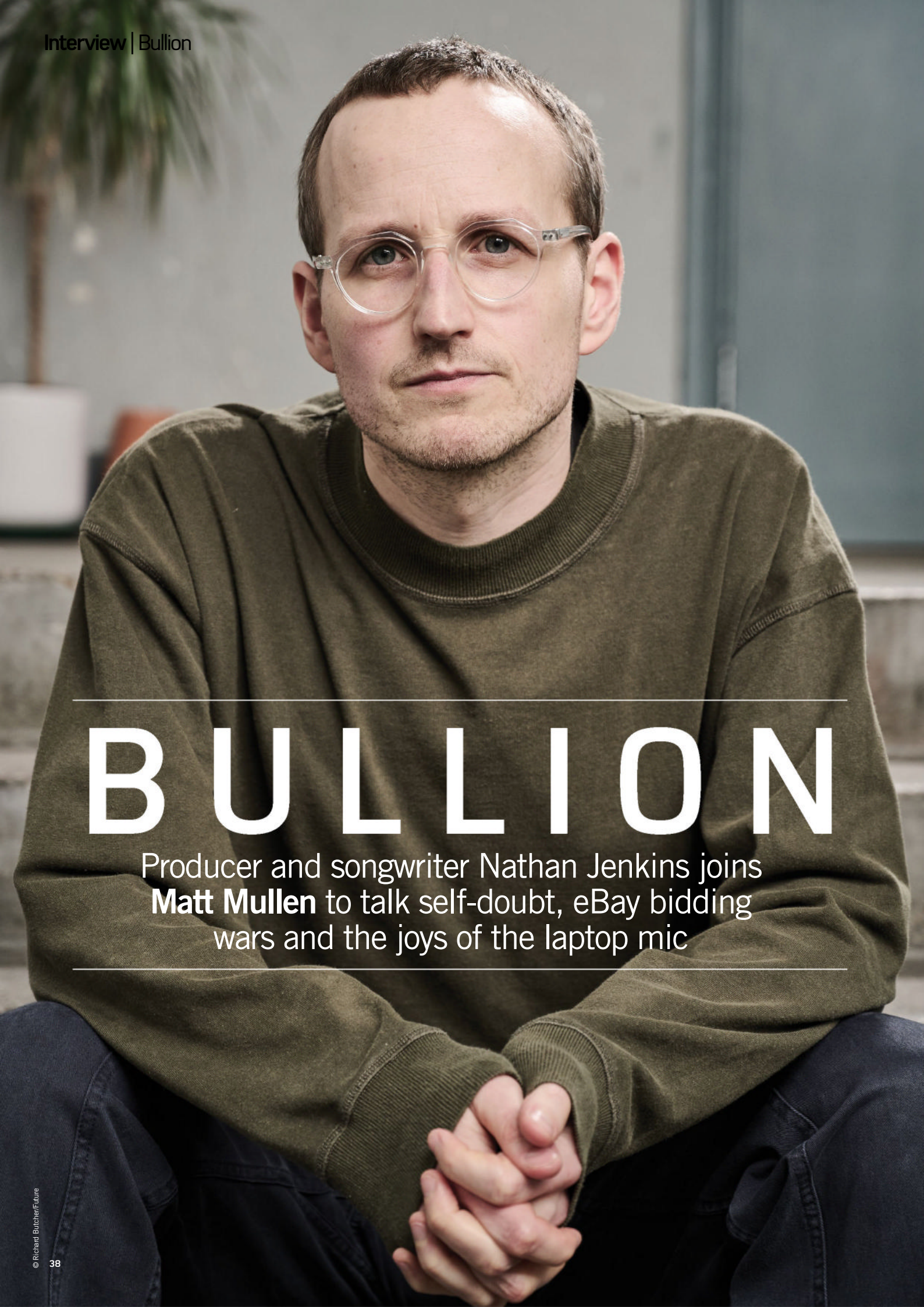
> ASIDE FROM THE PERCUSSIVE USES ALREADY DISCUSSED, DIALLING IN A LITTLE NOISE CAN ADD AIR AND PUNCH TO YOUR SYNTH PATCHES

USE NOISE AS A TONAL SOURCE

White noise is inharmonic and atonal in nature, but filtering can be used to isolate frequencies of a discernible melodic pitch. This kind of noise filtering is ideal for creating experimental bleeps and unexpected musical patterns – filter keytracking in a synth can help here. Try modulating a resonant band-pass filter's cutoff with a square LFO to create stepped sequences at various pitches. Try recording these filter sweeps and sequences and then resample them using your DAW's sampler; now modulate the pitch of the sample playback for even more weird tonal and rhythmic effects.

USE NOISE AS A MOD SOURCE

As well as the actual sound, we can use noise for modulation purposes. In fact, many synths allow a noise oscillator's frequency to modulate other parameters – said noise is often filtered first, to remove high frequencies that might cause the modulation to be too fast (though this can be cool in itself!). A classic way of achieving an unusual wandering vibrato is to apply a low-pass filter to white noise and then use this low-frequency energy instead of a sine wave to modulate a target such as filter cutoff or pitch. Remember that the result won't be exactly the same every time when you do this. FM



BULLION

Producer and songwriter Nathan Jenkins joins **Matt Mullen** to talk self-doubt, eBay bidding wars and the joys of the laptop mic

© Richard Butcher/Future

Success offers little protection from self-doubt. Nathan Jenkins – better known as Bullion – has produced for Carly Rae Jepsen, Avalon Emerson and Ben Howard and earned both critical renown and a considerable following as a solo artist, but he continues to struggle with a question that has surely plagued many readers: is the music he makes actually any good? "That's the biggest hurdle to get over with anything I make," Jenkins tells us. "In the end, it's not any of my business, and that's liberating."

It is emphatically our business, though, and we're happy to declare ourselves big fans of Jenkins' latest project, the 12-track LP *Affection*. Featuring contributions from Panda Bear, Charlotte Adigéry and the aforementioned Carly Rae, *Affection* is a pop record at heart, albeit one executed with artful subtlety. Prizing clarity over clamour, Jenkins' skilful touch in the studio renders each sound with remarkable lucidity, gifting his cryptic lyrics, staccato synths and understated guitar lines with intimacy and definition.

We sat down with Jenkins in his studio space in London to find out more about how the record was made.

Let's begin by talking about your introduction to music making. When did you start experimenting and what kind of setup were you working with at first?

"I was given a four-track by a friend of the family. I wanted to emulate the corny guitar music I liked as a kid, playing along to cassettes and making recordings. My dad was an early adopter of Apple Macs, so I found out about Logic and started making music on the computer.

"I abandoned the guitar for a while, after realising the possibilities were endless – I nearly sold my Strat to buy more software but my parents wouldn't let it go and they were right not to – I love using guitars on nearly everything I make."

How quickly did you begin to home in on a style and sound that felt like your own?

"I'm still in the process of figuring that out. It's not for me to say, I'm too close to even understand what that sound is. It took a long time to make anything I was happy with, probably not until I was in my early 20s, making beat-driven tracks inspired by 2-step garage. I went to a night called CDR at Plastic People, when it existed. You'd hand in a track you'd made and they'd play it on the sound system. Mine sounded terrible and the person next to me told me as much, without knowing it was my track. I took things more seriously after that!"

What kind of setup were you working with back then?

"It was an old Mac tower, using Logic 6 or 7. I was still trying to work out how to do quite basic things at that point. There's probably some naive things I did that I wouldn't do now. I wish I could undo some of my learning and I try to keep that in mind, not get bogged down in what I should be doing. Working with people who are new to things, like songwriting or singing, there's always things that happen in those early recordings that don't happen once you've gone a bit further and you forget how to be naive and in the moment."

We suppose you can get too entrenched in established ways of working…

"Yeah. Also on a technical level, the more equipment you accumulate, the more likely you are to get hums and lose time fixing things. Early on, it was a very minimal setup, and I had no concerns about needing to stand in the exact right place in my room to avoid noisy guitar pickups."

When did you begin working on the tracks that would become *Affection*?

"With all my solo stuff, it's quite a long process, with tracks going through various stages. Usually over at least two years. I can't think of anything I've finished that was less than a two-year chipping away process. It's the illusion of something that happens more organically, but it's laborious work.

"You think you're onto something and then you realise you don't like it. Then another stage of thinking this is an improvement, then wondering if there's something better beyond. I've surrendered to the fact that it's how I get music finished. I wish I could be someone who knocks things together quickly without the pain, but it's not realistic and probably keeps me moving forward."

> "THE EASIEST WAY TO FINISH IS BRIAN ENO'S WHOLE THING ABOUT HOW BEYOND A CERTAIN POINT, YOU'RE NOT IMPROVING IT, JUST CHANGING IT"

Is self-doubt something you've struggled with creatively?

"It's number one. That's the biggest hurdle to get over with anything I make: is it any good? In the end, it's not any of my business, and that's liberating. Again, it's just about surrendering to whatever feels the most finished and trying not to second-guess along the way. Saying that, I think second-guessing can be useful to get to the next stage. There's no singular approach, but self-doubt is always part of it."

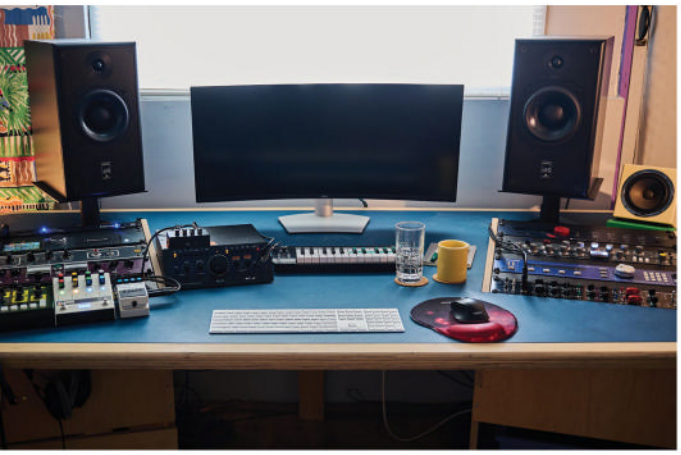
Have you developed any strategies over the years to overcome that?

"Deadlines – that's the best way to finish things. It's practical. There's nothing you can do beyond this moment. The easiest way to finish, other than that, is Brian Eno's whole thing about how beyond a certain point, you're not improving it, just changing it. I try to keep that in mind, but then who knows where the threshold is to judge that!

"There's self-doubt even in what I'm saying to you right now. There are no firm answers on any of it. Leaving things and coming back to them is useful, if time allows."

Talk us through your studio space. What were you trying to achieve with your setup?

"My Dad's always worked from home as a designer and his study is what I based my studio on. More of a homely and welcoming space than a studio; an appealing place to be and have ideas, with records and books and things hanging on the wall. For me, there's no bigger turn-off than going into a room that feels like a spaceship with a massive chair and loads of posh gear that you don't want to touch. I only want to have things that are being used and kept in workable condition. I



HARMONIZER

VOCALIST

moogerfooger
moog

spl
MTC

JAZZ CHORUS-40

try to really take care of the space, and all the equipment in there is something that I've bought specifically because I've used it elsewhere and I know it's going to be used in my room, or things that I've bought and sold and bought again because I missed what they did. For now, it feels permanent, but who knows, in a few months I might feel differently.

"What I used to do is buy things for a project and then sell them at the end of it. It was a strict one in, one out scenario to not get too clogged up, because that destroys creativity for me. Having too many nice things to play with, it's too much."

Could you talk us through a few pieces of equipment – synths, effects, instruments – that were fundamental to the making of the new project?

"It's funny because it's taken a few years to make that record, I've bought and sold quite a few synths and drum machines along the way. I got really obsessed with this Vermona drum machine after I lost an eBay bid for it by 20 euros or something, when I was living in Lisbon. I got it into my head that if I don't have that drum machine, whatever I make next is not going to be very good. It was a DRM, from 1987. This grey, chunky-looking thing with orange and black buttons. I'd heard a demo that sounded great and thought, that's what I want my next record to sound like. Genuinely, I stopped making music for a bit when I lost the bid. I can be a bit obsessive about those things.

"When I eventually did find another one, I paid slightly over the odds for it, made a couple tracks and then sold it. The myth of this machine overcame the reality. It sounds great for a certain thing, then you try it on something else and it doesn't work. Then you're like, okay, this isn't it, I need something else. So I learned nothing from that experience, other than to win the bid the first time round at the cheaper rate. [laughs]"

Does anything else come to mind?

"It's more about the people playing on the album than what was used. That's one of the discoveries I've had with studio gear and collaboration; if an interesting musician comes in and plays a synth that you were falling out of love with, they might play something that makes it sound incredible. Same with a drum machine; hearing someone else program a certain beat with it might change my whole feeling about it.

"Meeting Jay Flew, a multi-instrumentalist and songwriter, very late in the process of making the album, opened up a lot of new avenues for songwriting in particular."

"I GOT IT INTO MY HEAD THAT IF I DON'T HAVE THAT DRUM MACHINE, WHATEVER I MAKE NEXT IS NOT GOING TO BE VERY GOOD. IT WAS A DRM, FROM 1987"

Which tracks did he contribute to?

"*The Flooding*. I made that song playing parts in one by one, but I got stuck. He came in and learned all the chords on the guitar quite quickly and played it through in the room as a whole song, then we rearranged it. I've been working with him regularly since, he's a great musician and writer – I learn something new every time."

Do you think that comes from your background in electronic music, that programmatic approach?

"Absolutely, and not really being a well-practised player. Working with someone like that who can play so well and interpret an electronically-built track into a more performed piece was exciting. My background is using samples and programming to make songs. The limitations of pitching samples to make chord changes and progressions probably shaped how I think about making music, so it's good to challenge that."

Are there any samples on the new record?

"*World_Train* is based around a looped passage from a Kevin Ayers track. It's a hoedown sort of thing. I'm sampling less in my own work and I prefer to use samples more as decoration than the foundation of a song, but this loop was so fun to sing over.

"Partly from a practical point of view. Clearing samples is expensive and replaying them often falls flat. Bringing musicians in is a form of sampling, in a way – getting people to play something interesting that you could imagine hearing on someone else's work, then bringing that into the music. It's sample-free sampling. [laughs]"

Synths are clearly a central aspect of your sound. Which synths did you lean on the most in the new project?

"I had a Prophet VS for a while, that was really fun to use. I've had a few Sequential synths. I had a Prophet-5 and a 6 and then the VS. I've been using the Groove Synthesis 3rd Wave for a while now too. I think people from Sequential made that, so I must be drawn to whatever it is in that sound.

"It's a mixture of digital and analogue. A Waldorf Microwave, a Roland JV-1010 that I got in Lisbon. There's probably a bit of that on the album. I'm pretty fussy about synth sounds, but they don't have to be analogue.

"Synths with built-in effects can be pretty fun, especially when you're scrolling through presets. Doing that as someone's playing, you get all these effects cutting off as you change preset, coming to a dead stop and then a delay kicking in… those Roland ones are great for that."

Are you someone that likes to design patches from the ground up or more of a preset-tweaker?

"Somewhere between the two. I haven't got the patience for modular synthesis. It's insane to me, I can't spend the time sitting in front of that wall of twiddling. I like having a bit of that work done previously. It's all about how the thing sounds as someone's playing it, because just scrolling through presets and hitting one note doesn't really give you an impression of what a patch is going to sound like in a song. It depends on the time you've got, and how crucial that part is to the track. It's all got to serve the song. It's about how everything interacts."

Do you have any go-to pieces of outboard for recording and processing synths?

"The Moog MF-104M is excellent. If it's synced to the track tempo, when you change the interval of the delays you get a pitch-y effect that's often in key somehow. I don't exactly know how that works – maybe I've just been lucky every time, but it's such a musical thing."

Is that an OTO BAM on your desk too?

"Yeah, the freeze function on that is fun. Any FX unit with a freeze function is very appealing. Making drone-y things that you can pitch, creating frozen chords… anything that's a single held chord. There's some Celtic instinct in me to go towards a sustained drone."

When it comes to plugins, could you talk us through a few that you used the most on the new record?

"A lot of Logic stock plugins. They do the trick. I've been drawn in by posh effects at times, but generally, because I've used those Logic plugins from the start, I know them pretty well. It's nothing extraordinary. Soundtoys is great. Another thing I obsessed over is the Lexicon Prime Time 93, that the Soundtoys PrimalTap plugin is based on. I very nearly bought one of those, but the maintenance is hell apparently. That also has a freeze function…"

Have you experimented with any new techniques on this project?

"The one in, one out approach, it's something I've applied to my production as well. If I'm recording a part of a song, I'll

try to take something else out or make space for that new thing. I've been a maximalist in the past, adding and adding and not being particularly careful about how everything has its own space within a production. I've been spending more time carving out space, whether that's with EQ, or reverb, or the stereo image. Lots of drawn-in automation."

How did you approach vocal recording on this project?

"Psychologically, I try to think of every take as the final one – solo or collaborative. I've never really understood what demo'ing is, the idea of doing the final thing later. On a technical front, I record with a dry, compressed sound. I tend to sing a bit more boldly and not hold back if there's a little ceiling on what I'm doing. I guess it's also more about microphone technique and understanding the mics better."

Do you have a preferred mic for vocals?

"It always comes back to a very typical choice, the SM7. I've been using a ribbon mic a little bit as well to sing into. But for doubling voices, the SM7 seems to give a much nicer doubling effect than a condenser. It's nicer as a handheld thing, too, I've never been one to stand up. I find that whenever I've used a laptop mic to do takes, hunched over a laptop, I get way more pleasing results. I try to keep that in mind, recording myself or anyone else, that it's not always the best-looking or the most professional-looking setup that gives you a good result."

You're both a songwriter and a producer. Do you find that those two disciplines are separate for you, or is it one singular process?

"It's more separate, recently, because of what I was saying about having people like Jay come in and take something that I've started and turn it into a more traditional process. Previously, it's been all in one, songwriting, recording, production, mixing… it's a gradual process altogether.

"I do find that quite appealing – having the ability to produce means you can quite radically change songs quite easily with production and sampling. You can turn a mediocre idea into something exciting quite fast. I'm definitely not trying to go towards traditional songwriting too far. It's great to have both."

We suppose it's a different headspace as well, when someone's come in to jam or write, as opposed to sitting in front of the computer alone…

"Completely. Seeing the shapes of things on the guitar or piano that were previously just blocks on the screen. MIDI chords turn into a physical shape, it's more interesting and fun to see those appear as you record.

"I want to create an atmosphere that's friendly and funny as well. It gets heavy if things are all a bit professional and serious. It's good to have humility about not knowing how to use things that you have in the studio. Someone will ask… what if you change the threshold and release on the compressor? It's like, I guess we could, I don't know! When you've got those things, people assume that you know exactly what you're doing, but I'm still pretty ignorant on a lot of those techniques. I studied music tech and we had a great mixture of 'here's how you should and shouldn't use compression' – both work."

> "SOMEONE WILL ASK... WHAT IF YOU CHANGE THE THRESHOLD AND RELEASE ON THE COMPRESSOR? IT'S LIKE, I GUESS WE COULD, I DON'T KNOW!"

Are there any albums or tracks that particularly inspired you for this project?

"I haven't been listening to as much music while making this record. I remember listening to Prefab Sprout's cover of *He'll Have To Go* quite a bit when I started on the album.

"The chord changes, the sonics of it, the drums… how warm and together everything feels, but still quite open, it feels quite natural. The more natural sound is something I was going for with the album; the illusion of less production. I'm really intrigued about how much of an illusion that is with other people's work, as well. How much time was put into the details, and how much of it was just incidental, because of good engineers and experienced choices. For me, it's an illusion – it's just hard work." FM

WANT TO KNOW MORE?

Bullion's *Affection* is out now on Ghostly International. For more info visit: **nathanbullion.com/**

Loopcloud

The Only Sample Subscription You'll Need

Loopcloud TRENDING

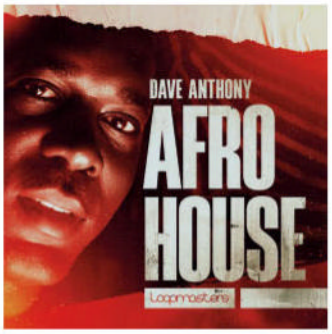
Loopmasters

Pick a free sample pack with any purchase

New Releases

Best Sellers

Trending



Label Highlights

IN THE STUDIO

Demi Riquísimo

The Italo and prog house-inspired producer lets us in on his go-to gear and music-making approach

© Future/Joseph Branston

INCLUDES VIDEO

Demi Riquísimo is a London-based producer, DJ and label head embracing the retro sound of '90s dance music. So much so that he even named his latest track after Windows 95 – a track that, somewhat ironically, was produced in Logic Express. Bringing together influences from acid, Italo and prog house, Riquísimo's music is potent but playful, pursuing a classic sound through the use of vintage synths and skilful production techniques.

Riquísimo's nostalgic tendencies are on full display in his studio, which houses a handful of the aforementioned vintage synths. You'll hear the Casio CZ-3000 and Korg M1 on his new single, which the producer was kind enough to break down for us when we visited his Mile End studio space.

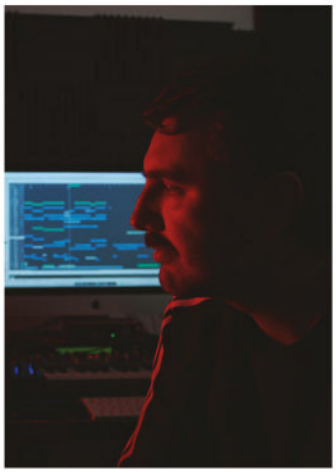
During that visit, we sat down with Demi to talk about his unique approach to music-making, finding out more about the producer's journey into music production, his love of the Novation Bass Station, and why he hasn't used a soft synth in a decade.

How did you get into electronic music-making?

"It started when I moved to Bristol when I was 18. I started going out a lot and listening to a lot of other types of music that I wasn't really familiar with. Shortly after, I got glandular fever – I spent a lot of my first year lying down and not having a lot of energy, but I had a little bit of student loan money, so I bought some decks and some vinyl and got into DJing, then bought a copy of Reason 3 and got into production. Then I joined Access To Music – I think Danny Byrd was my tutor for a couple of lessons as well!"

What DAW do you use and why?

"I started out using Reason



because my friend had a copy. At Access To Music they taught us Reason – this was before Ableton was a thing. It was more of a way of playing music live, that was their thing back then – it wasn't a huge music-making tool. So it was all Reason at first, and then Logic was the superior one, which I moved on to towards the end of the course.

"Logic was so much easier, to the point where I didn't understand why they were teaching with Reason – it seemed way more complicated than it needed to be. Saying that, some of the synths were really good, and it was a good learning experience. But I'm on Logic, I always have been. I probably should learn Ableton though!"

How do you typically start a track?

"It's different every time. There's two main ways. I might start from a sample – something from a new sample pack or something I've heard or something I've ripped off an old vinyl. I put it out there and I'll build something around it and nine out of ten times that original loop might just not actually end up being in the track, but it was the thing that started the initial concept. Sometimes it stays in.

"The other way is, I'll just come in here, and depending on my mood, I'll turn everything on and just have a little play, go through some presets and go through some different sounds and see what works."

Which one piece of gear in your studio could you not do without?

"The Novation Bass Station II. They have VST versions of it, but they're not as good, obviously. It sounds kind of like three bass synths in one. It's super cheap, it's less than 400 pounds, and I pretty much use it in every track. It sounds even better when you put it into the mixer first and EQ it there first. Sometimes the sub bass is lacking a little bit on some of the cooler sounds that cut through at like 200Hz, but if you give a little boost on the bass it sounds great.

"The Bass Station was my first analogue synth and my first piece of hardware. I've written so many tracks on this – it's got a really great arp section. I did a track called *Dictionary of Fools* that's based around an arpeggio on the Bass Station that's working with the modulation envelope to give it a bit of a swing."

"SOME OF THE BEST TRACKS HAVE FIVE KEY ELEMENTS THAT WORK REALLY WELL TOGETHER... BUT NO MORE THAN FIVE"

What's the latest addition to your studio?

"I share this studio with a friend, Manuel Darquart, who's also on my label Semi Delicious. He brought this in, the Casio CZ-3000. It's got some really great brassy sounds, the string sounds on it are amazing. I used it in the latest track, *Windows 95 Anthem*. Also, there's the Korg M1 rack unit. Instead of the keyboard version, this is just a rackmount version you can put through the sound card and play with a MIDI keyboard – it's great. It's got all the classic sounds.

"My latest additions are actually the oldest gear in the room, which I actually quite enjoy playing with. They've got some of those key sounds, textural sounds which really add depth to a track.

"Apart from that, there's the Korg Prologue. This was my treat to myself at the beginning of the pandemic – I knew it was going to be going on for a while so I thought I'd get one of these. I spent eight hours a day just sitting with it, learning it, playing around with it, coming up with ideas with it, making dance tracks. making soundscapes with it… I actually really love this synth a lot. It's 8-voice polyphonic, and it's half-analogue, half-digital, so you can mix the two together, which is quite nice."

What is it that you prefer about hardware synths over software?
"I started with the whole VST thing. That's what I learned with at college and university, but I just couldn't get my head around them to be honest, the way they look – it's too futuristic. All my peers, everyone in my class they knew them so well and they did such a good job with them, but it just didn't interest me. If I wanted to make the most out of them, I'd have to map each fader or knob to some kind of MIDI controller, and then I get something I'd like. But in the end, I found them just a little bit spongy – they're not very sharp and responsive.

"But as soon as I got something like this, the Bass Station, and I could just hit some notes on latch, put an arp on it, play around with some of the functions on it, the sound that comes out of it made me think, I know this is where I have to go with my sound because this is just what attracts me to the music I hear out on a weekly basis. That's the difference. So to be honest, I haven't used a VST synth in about ten years. Saying that, I know they've got a lot better and one of my New Year's resolutions was to start using them – so maybe I should."

What influenced the sound of your latest track *Windows 95 Anthem*?
"The sound of that track was completely down to the equipment I used. Obviously the early '90s prog house sound is becoming very popular. It's a sound that I've always really liked, but it's never really been something that's been a thing – but recently, it's had a bit of resurgence, which I love. A lot of the sounds on the synths I have really resonate with that sound and that era, which I love. That's kind of how the track came together."

Did you experiment with any new techniques on the new single?
"The only thing I wanted to do with this track is keep it as simple as possible, because I feel a lot of music I'm hearing, and even music I'm putting out, can be quite complicated in terms of the layering and everything that's going on in the project, I wanted to keep this super simple. Some of the best tracks have five key elements that are working really well together at the same time, but no more than five. If we look at the project, there's only about 30 channels across the whole project. It was all about executing each sound and making the most of each one in its best form."

What's the dream piece of gear you could have if money was no object?
"I played on a Prophet recently in a studio in Bali and I really liked that. I would love one of those. It's just got a great sound to it, bass, mid range – I would love one of them for sure. I also played a Juno-X, which is quite an interesting synth because it's kind of a mixture of all the older Juno synths, but it's all-in-one and it's digital. That's quite a fun one.

"Maybe another drum machine – I use this RD-6, which is basically Behringer's version of a 606, which is good for whipping out some top-end loop grooves. Sometimes they can be a bit sharp so I modulate them a bit with some chorus, or something like that." **FM**

WANT TO KNOW MORE?

Demi Riquísimo's *Windows 95 Anthem* is out now on Higher Ground

INCLUDES VIDEO

Demi breaks down the synths used on *Windows 95 Anthem*

Full Demi Riquísimo interview

WHAT'S ONE PIECE OF ADVICE YOU CAN OFFER ASPIRING PRODUCERS?

"If an idea isn't really working within the first 30 minutes, don't feel like you have to keep on working with it. Move on to something else. Don't feel like you have to finish a project in order to go on to the next one. I'll be working on ten different original projects at a time. If I really want to finish this one project, sometimes I have to finish the other five to get this one finished. I have to get in a flow.

"I'm not saying if you do a track for 30 minutes and it's going nowhere, then throw it away – don't bin it, but go to something else and try and create something new, then that will spark some new ideas that will help you finish some of the other stuff. I've got about 200 unfinished projects here I still need to get through. Sometimes you can just spend ages on them and get nowhere, and sometimes you can get on a roll and finish five tracks and you're like, oh my God, this idea I had in that one, that could work in there… then suddenly it all comes together.

"That would be my main advice: don't beat yourself up if you can't get an idea finished straight away, it's fine. Move on to the next one. It's supposed to be fun. And if you're spending a lot of time on one idea and it's not getting anywhere, move on to something else, it's all good."

Modern LFOs

The staple modulation tool used by professional audio engineers across the globe for decades

INCLUDES AUDIO

What's a sound without movement? LFOs are likely the most common tools at our disposal for creating movement when creating sounds or applying effects. LFO stands for low frequency oscillator – specifically, an oscillator whose frequency is typically below the human audible range (under 20Hz), although these days that frequency limit is by no means hard-coded.

You'll most likely see LFO settings incorporated into each synth in your toolkit because of how common they are and how many creative options they provide us. We can map them to modulate most synth patch parameters (like pitch, volume, filter cutoff, and effects processing–like reverb) although some synths are designed with LFOs fixed to one or multiple parameters.

Unlike the single cycle of an envelope filter (another similar modulation tool featured in most synths), LFOs allow us to add constant cycling movement, texture, and depth to our sound designs by consistently modulating their mapped parameters across time, according to their specified frequencies. An envelope signal typically 'plays' once alongside a note, starting and ending coincident with it, while an LFO signal often feels more constant, oscillating even when a note hasn't yet been played.

Some LFOs – including the one in Ableton's Auto Filter – also allow us to set the LFO rate at a musical measurement (like 1/4 bars or 1/2 bars), instead of a fixed frequency, so the modulation applied will automatically be in sync with your project tempo. This is especially helpful when creating a desired rhythmic pulse. Many LFOs also allow us to change their wave shape (eg, sine, triangle, and sawtooth) to customise them further.

Without LFOs, synth sound design would restrict us to constant waveforms and effects with little room for tailoring the sound. We'd also have to always rely on manual automation, which can be tedious and hard to apply extensively with precision.

Since their inception, LFOs have become a staple part of sound design, and like all technology in music, audio, and sound engineering, they're continuing to be implemented by developers in fun, experimental ways, expanding their creative potential and applications.

But as digital tools and software have let developers push through new boundaries, modulation has become more and more open-ended. The serious synths of today features LFOs and envelopes, but they're so customisable that they're arguably the same thing – a multistage envelope that can be set to loop and an LFO that can be set to trigger once, for example. Plugins that offer custom, draw-your-own shapes for their LFOs can be put to work in a variety of ways, making things more ambiguous.

Identity crisis or not, in this feature we'll look at some modern-day LFOs. While some of these may blur the boundaries of modulation and modulators, they can be used for a huge number of sound-design applications, and what results they make possible.

The Moog modular was one of the earliest synths – and with it came some early LFOs. In many ways, things haven't changed much since

Controlling the custom LFOs in ShaperBox 3.5

1 ShaperBox is an effects plugin, rather than a synth. This means you can make use of its talents on any incoming signal. Load up anything that gets your head nodding, ensure your project tempo is set correctly, and open ShaperBox on the target channel.

2 ShaperBox has 10 LFO-controlled effects ('shapers'). For now, let's click on the Volume shaper to add it to the chain. This LFO will modulate the volume of the incoming signal. You can choose a starting waveform from the bottom-left.

3 We can customise the LFO envelope by clicking to add points and dragging to move them. We can change the rate using the dropdown menu in the bottom left. You can set the rate to a free-running frequency measurement, too.

4 Next, we can add another LFO effect by clicking the plus icon in the top-left corner. We'll go for the Drive this time to add some distortion. It'll stack on top of our Volume shaper, adding Drive at an intensity controlled by its LFO path.

5 We can choose another LFO shape from the bottom left. Let's go for something more complex. If the result is not organic-sounding enough, we can use the Smooth control to take the 'jagged edges' off – literally and figuratively.

6 You can add one of each shaper per instance of ShaperBox, and rearrange their order by clicking and dragging them from the top menu. There's a goldmine of factory and user-created patches to explore for new ideas, too.

Exploring Vital's LFO functionality

1 Upon opening Vital, you'll notice the LFO settings on the right-hand side. To get started, let's load up our three oscillator wavetables with some differently shaped waveforms and then set our LFO shape to Triangle – ready to be customised next.

2 Vital allows us to customise each LFO's wave shape in detail by drawing onto the envelope. This represents one cycle of the LFO. To draw, double-click to add a point, then click+drag the connecting lines.

3 Map the LFO to a specified parameter by clicking and dragging it from the LFO sidebar to the desired parameter. Let's go ahead and connect our freshly-shaped LFO to our second oscillator wavetable. You can also set your LFO's rate using the Frequency tab.

4 Remember, mapping your LFO to any parameter will affect the sound in various ways. Mapping an LFO to any oscillator's wavetable will cause the wavetable to cycle its waves at the frequency and envelope of the LFO. Change your wavetable view to 3D to see it cycle in action.

X'S LFOS

Massive X is a great example of modern synthesis done right. Thanks in part to its LFOs, the synth has an extensive abundance of sound design possibilities. Here, we take a look at Massive X's Wavetable modes (a unique feature), paired with LFO modulation, and how the two go hand-in-hand to expand our creative palette. The Wavetable modes in Massive X are just one of many features that make this synth a force to be reckoned with.

Massive X's LFOs go a little more advanced too, though. First there's the Switcher LFO, with its identifiable choice of waveshapes around a circle, which can be modulated itself. How about the Random LFO, which can get you anywhere on a spectrum from all-out randomness to subtle variance. And then, the Performer, the mixture of LFO and draw-your-own modulator that takes the wobbly signal-shaping heritage of Massive into its next incarnation.

Modulating Massive X's unique features through LFOs

1 All wavetables in Massive X have different modes that alter the wave cycling behaviour. Combining these with LFO modulation makes for some unique sound generation. Open up Massive X and choose a wavetable for Osc 1.

2 You can then use the modulation panel (the interface's bottom half) to select an LFO slot and map it to one of the wavetable's mode controls (Over or Bend). To do this, click and drag the LFO's corresponding slot.

3 Then, adjust the LFO amount by clicking and dragging the newly-lettered slot next to the specified mode parameter. You can now hear the LFO modulation in action when played. Feel free to mix and match LFOs to other parameters on the synth.

Exploring FabFilter's modulation

The company may have gained most of its reputation from effects, but Twin 3 is FabFilter's flagship synth, and sculpting sound using this plugin, with its familiar FabFilter interface, should be simple for anyone who knows the modulation grammar from other Fab' plugins. Perhaps one of the standout modulation features is its XLFO modulation effect.

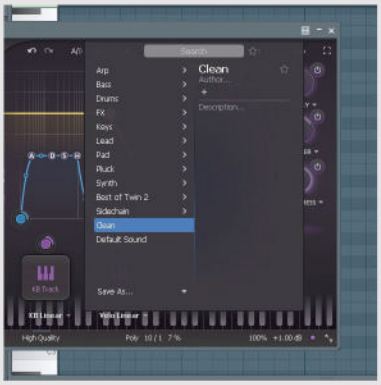
XLFO (the X standing for extra) can function as any regular LFO, with some pretty neat bonus functions: it can be turned into a step sequencer with up to 16 customisable steps. Where some LFO's allow you to draw their envelope shape using typical automation dot points and interpolation lines, the XLFO's step sequencer provides a more intuitive approach with advanced controls capable of intricate refinement.

Twin 3 is a modern-day synth pushing the envelope of LFO technology, making waves with its 16-step sequencer XLFOs

You can add or remove steps at your own leisure by selecting a step and clicking the plus or minus button. Each step also has its own Glide knob, shaping the interpolation point to its sequential step, and a Shape setting, which you can change to either Linear, Sqr, Sqrt, or Sine. There's also a Value knob to specify the height of each step's transient with a toggleable Random switch, in case you want the step to play randomly each cycle. Other than that, you'll find all the usual LFO settings in a neatly packed panel to the left of your LFO display.

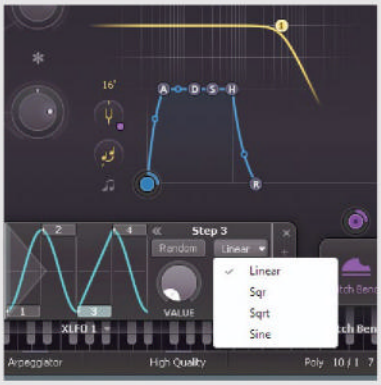
This unique feature makes Twin 3's XLFO stand apart from other LFOs and is a great example of modern tech pushing old concepts into new territory.

Using FabFilter's XLFOs in context



1 For this example of Twin 3's XLFO, we're going to be using the Clean preset, which starts with a basic, single-wave oscillator. Don't worry, we'll spice things up in the following steps.

2 Click the plus button to add another oscillator. You can also change the shape by clicking its waveshape button. You can add up to four oscillators within Twin 3 and customise each of their shapes. We'll be linking these to an XLFO soon.



3 Next, click the plus icon in the Modulation panel and select New XLFO. By default, the XLFO will have two steps. Click plus on the right and add two more steps. Then click and drag the third step down and change its shape to Linear.

4 Now, click and drag the XLFO's pulsing blue button and connect it to the Volume of both Oscillators. You can adjust the intensity of the XLFO by clicking and dragging the pulsing blue button's outer circle. Drag the slider to the value 2.000.

5 Double-click Filter Point 1 and change the value to 1,500Hz, making the high-cut a bit more noticeable. Add another XLFO and link it to the low-pass filter by clicking and dragging the pulsing blue button. This LFO will now affect the filter.

6 Click the plus button until it reaches 16 steps. You can then shape the steps as you see fit. Interact with the Glide knob of each step to alter how smoothly each step interpolates to the next one. You can also adjust the frequency.

Using Infiltrator 2's custom LFOs to wreak havoc

1 Infiltrator is an example of a plugin that throws many of the features we've covered so far into one. Infiltrator works as an effect plugin, so load a sample loop into your project and then open an instance of Infiltrator on its mixer track. Click on the dropdown menu, and select the preset Psychedelic

2 The Psychedelic Dreams preset uses seven out of ten effect slots available to us. You can click any of the slots from the top menu to open and edit them. You can also add a new effect to a blank slot by clicking on it. Open up slot 8 now to preview the effect.

3 From the effects menu, you have two pages containing effects in the following five categories: Filters, Effects, EQ, Utilities, and Spectral. Scroll between pages by clicking the arrows. Go ahead and open up the Lo-fi effect from the Spectral category onto slot 8. Notice a change in sound.

4 You can adjust the order of your effects by clicking and dragging them in the top menu. For now, let's leave our Lo-fi effect in slot 8. With slot 8 selected, you can begin interacting with the effect's controls, including changing its LFO filter and enabling/disabling it. Choose an envelope shape from the menu, below the effect slots.

5 You won't be able to hear the LFO working until you enable it. To do this, click and drag the blue knob in the central control panel. You can set the blue knob from value -100% to +100%, which will change the Envelope Amount. Any negative value will invert the LFO envelope. Set it to +100 now.

6 You can now hear the Lo-Fi effect activating according to the LFO envelope shape you selected. You can change the frequency of the LFO by interacting with the Speed knob on the bottom-left of the interface. By default, it's set to ½ beats. You can change the measurement from Hz to project tempo, by clicking the Sync button.

7 Now that we've enabled our Lo-fi LFO, we can further customise the LFO's shape by adding manual points on the envelope's display. To add a point, double-click. You can then adjust the interpolation lines by clicking and dragging. For more precise adjustments, you can toggle Off the Snap setting.

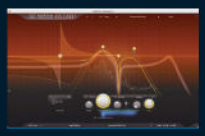
8 You can add a bit of swing to your LFO grid steps by dragging the Swing setting. You can also change the point of the envelope in which your LFO starts sweeping by dragging the orange Start slider. If you really wanted to, you can even randomise your LFO shape using the Random menu.

9 Now you have a comprehensive understanding of Infiltrator's LFO controls, why not jump into the Psychedelic Dreams preset's pre-loaded effects and play around? Or you can explore the other presets. Infiltrator's wide range of effects, mixed with advanced LFOs, makes for interesting combinations.

THREE OF THE BEST

Xfer Records LFOtool $50

1 Sculpt custom LFO curves and shapes with this handy LFO effects processing plugin from Xfer Records. Packed with dozens of presets for you to get experimental with, you can count on LFOtool as a reliable sound design companion.
xferrecords.com



FabFilter Volcano 3 £109

2 An eruptive sound modulation assistant, Volcano 3 is FabFilter's award-winning effects entry to the LFO market. Coming with a revamped interface design in its third evolution, and an extensive list of categorised presets, this modulation plugin contains everything you need to add texture and depth to your tracks.
fabfilter.com

Devious Machines Duck £20

3 A volume shaper plugin that creates a pseudo 'sidechain' effect, Duck also had custom-drawn shapes that can loop, meaning it's simple to be set up as an LFO, and even has a few presets to give that instant wobble.
deviousmachines.com

Other DAWs that expand modulation

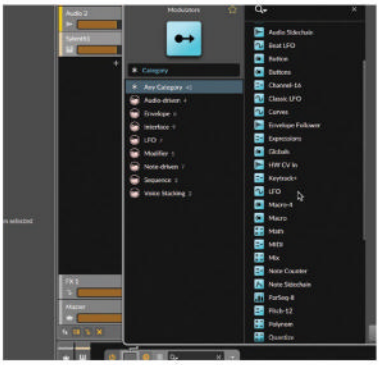
We show below how Bitwig Studio can use its inbuilt LFOs to modulate parameters within a plugin – even if the plugin doesn't feature LFO modulation of its own. This kind of host modulation stems from plugins giving the DAW access to their parameters to be able to automate them, and the idea isn't just seen in Bitwig: there are more places you may find it.

Tracktion's Waveform DAW has a number of its own devices that can modulate whatever they're pointed to. The LFOs, envelopes and even sequencer can be useful and creative sources for a whole host of effects. Meanwhile, when Reason started its support for plugins, it built into its VST host device the ability to modulate assigned plugin parameters using its virtual CV signals, expanding the possibilities and supplementing users with new LFOs. FM

Need an extra LFO on that free synth? How about another 8? Host-based modulation can make it happen for you!

Modulating the unmodulatable

1 Let's go back to the good old days of Sylenth1! Our old friend has most of what we need to program a synth patch today, but what if we wanted to add some modulation that it wasn't capable of back then? In Bitwig Studio, we can Show Modulators on the device, and click to add a new one.



2 Here we're given a list of modulators that we can install in front of the synth. We're writing about LFOs here, so we go for the LFO, but other notable modulators include Buttons, Macros, various Math units, even Voice Control.

3 With a single LFO added, we see it cycling within the device window, and we can click its arrow to assign it to a recently clicked parameter. Here you can see the filter resonance moving in line with our LFO.

4 Another advantage of this system is that we can group the synth with an effects plugin that comes after it, and move the LFO to the parent group. This lets us point the LFO to multiple targets in the plugin and the processing chain.

IN THE STUDIO

Dave Clarke

As he reissues his classic debut album, the ‘Baron of Techno’ talks ’90s production, DJing and almost getting busted by the TV licensing authorities

INCLUDES VIDEO

In the late '80s and early '90s, British dance music icon Dave Clarke helped define the sound of techno. Having released a string of classic tracks on labels like XL and R&S at the beginning of his career, between '94 and '96 Clarke released a trilogy of influential *Red* EPs, which led up to the release of his debut album, *Archive One*, a defining statement of rugged, rave-ready techno.

Three decades on, Clarke has just reissued the previously rare EPs and album on vinyl, as part of a lavish anniversary boxset complete with remixes from the likes of the Chemical Brothers and Umek.

These days Clarke is based in Amsterdam and balances DJing and production with teaching and presenting regular radio shows. We sat down with him on a recent visit to London to talk about the history of those classic releases, the changing face of DJing, and the approach behind his prolific remixes.

Tell us about the studio which you used to make *Archive One* and the *Red* EPs…

"Ostensibly in those days it was really DIY because a lot of knowledge wasn't freely available like it is now. You'd learn things like having breeze blocks to put your speakers on. But probably not the best thing was actually the fact that your studio table was above your futon bed, on said breeze block – so obviously best not to live in an earthquake zone.

"I had a pair of Tannoy MS20 Mercury's, which I once saw in the backdrop of a Simone Butler video. I wanted to make everything really individual so I found some really cool Ford Cortina blue spray and then put gold dust on them so they just looked like nothing else. I was really proud of those speakers.

"Then of course there'd be things like the Atari 1040st with a TV screen in there. The TV screen got me in trouble once with the TV licensing authorities, because people would tend to grass you up when you bought a TV in those days. When [the authorities] came around and saw that I actually had eLab running on it they didn't do anything. They could see I was working very hard and not watching BBC or something.

"Otherwise, I had Ensoniq samplers and a Tascam keyboard mixer with MIDI Mutables. Not very much else at all. Just very rudimentary equipment and the sampler had hardly any memory. I think I started off with 0.5MB and then managed to pay for an update to 2MB and then I would use Nyquist Theorem and heavy truncation to get the most out of everything. So, with the bass drum, I wouldn't sample a full frequency, for example, I'd sample maybe half frequency as you don't need that because of Nyquist. And then I'd truncate the hell out of it and maybe just have a bass drum and the transient of one. And then I would sample the 303 – that I borrowed – with full resonance. I'd use the filters within the sampler controlled by the mod wheel to bring it all down. So really, really basic, basic stuff."

What were your big influences back in the '90s?

"Everything is an influence when

you're that age coming through music, and you take everything on subliminally; having a big influence almost means you're sort of emulating. I think all I was doing was ingesting a large amount of music and then regurgitating it in a way that didn't make sense… but kind of did make sense.

"I'd be spending an awful lot of time going to record fairs at Brighton Centre, going to record shops. I worked in one. And of course there were no tutorials online saying how'd you do this and how you do that. There were ideas like 'the 909 is the drum machine that you need to have'. I never had a 909. I just learned from listening to records more than I did from emulating."

Why do you think there's been a resurgence of the '90s techno sound in recent times?

"I mean, I'm speaking for myself but I think a lot of us were struggling to get it all to work to make sense of it. Because of that struggle it gave each track its own individual character, whereas now, with the tutorials and stuff and with all these semi AI tools, it just seems a lot easier to get where you need without really offending anyone. And a lot of [those older] records kind of offended people in weird ways. Like 'how the fuck did they get that sound? It's really way out there!' or 'why is that bassline so out of tune, or out of key, or out of time?' But yet it worked. People were sampling a lot of break beats at those times and doing really strange things with it. Jungle was starting, drum & bass was just starting. And people learning how to edit. Everyone was learning how to do something afresh and I think that's why the longevity held. The purity of discovery."

INCLUDES VIDEO

Watch the full interview

WHAT'S YOUR ESSENTIAL MUSIC-MAKING TIP?

"The environment that you're working in is very, very important. Have some plants, have some natural light if possible, have a radio on in the kitchen so that you can just go off and hear something that you haven't chosen that takes your mind off. Those sorts of things are really important to being creative.

"Make sure that the seat is really comfortable. Stupid things like that. Make sure that the table is the right height. That you have a light behind the computer screen so you then don't get knackered with your eyes. Don't force yourself to constantly listen to the music all the time. I call it Guantanamo Bay-ing yourself, where you constantly play the same music for 24 hours, and then you have no choice but to like it and then you dream of it. You want to tune out. So sometimes switch it off, listen to radio, watch a studio podcast about something because it makes you think in a different way. Then just apply those things and see what happens.

"I don't really have any magic tips, it's just really more spiritual and ergonomic things. Respect your own body and the environment. Christ, did I just turn into a hippie? Probably did! Not good!"

How has your relationship with DJing changed over the years?

[laughs] "We're stepping into really dangerous territory here. I've gone through phases of my life of being really proud to be a DJ and really quite ashamed to be a DJ. I'm at a phase now when I'm almost ashamed to be known as a DJ for what people know it to be.

"DJing went through a phase where it was seen as really credible and cool to be a DJ. And now? It's deeply embarrassing. There's so much light on stage and they're all dancing – and I don't mind people dancing – but it's just like the performance is more important than the music. So we're sort of in a strange era of where there are way too many people who call themselves DJs and I'm sort of… embarrassed to be a DJ.

"But heading into the tech side of things, what I use is twofold. When I'm doing radio now, I still use Serato which has this incredible feature called Stems. I use that when I do my *Saga* radio show and I can do live edits and remixes right there and then. It's really good. [For club sets] I'll use the CDJ 3000s and the DJM A9 mixer, plus a variety of different things like a Reloop Serato controller, a DDJ1000 or something like that, and of course the RMX as well."

How do you think dance music has changed since the pandemic?

"I don't think I'm the fairest person to comment if it's got better or worse, but I think there's one way to look at this in a really historical way that adds precedent. When I was growing up I came through the Deep Purple, Pink Floyd, Emerson Lake and Palmer 'bring your modular set up and noodle and wank live on stage' thing; with some amazing musicians who got lost in their musicianship. Then we had ska and punk. The majority of punk people really couldn't play anything, but what happened was that it shook the piss out of everything and it inspired all of us.

"If you look at these [DJs] now, things are shaking up – and things being shaken is good. It changes things. In a year, two, three, four years' time, the people who see those people who obviously cannot DJ will want to step up. We'll have another generation of people that actually *are* fucking great. With

punk, some of the best acts are still around. Some of this new generation of DJs who are actually good at what they do, they'll still be around in years to come.

"The people who are pretending, dressing up weird and doing stuff for attention – the people who are managing social media well but not the decks well – that will bring people in who see that and realise they can do it better, be more interesting. Then you'll end up with something like what happened after punk, where it gave birth to new wave and stuff that was more arty and interesting, with more depth. At least that's what I hope."

How would you usually approach tackling remixes?

"I want to like the track. It's really important for me to like the track. I've done things in the past that I was *okay* with – but I need to find something that I like that really works for me. And as I've got on in my career, that has to be a human element more than anything else. Because I honestly don't see the point of *me* doing any techno remixes that come in. Like I just heard a Luke Slater L.B. Dub Corp remix of *Dubfire*, which totally tears it apart; it's brilliant. So you know, it works in that particular regard but I don't feel like I want to be sitting in the studio really doing that.

"I want to be working with people with voices who sing or, you know, play guitar. I just feel like that's where I feel more comfortable right now. That change has really been slow but it happened during the pandemic because I just allowed myself to get back into the music that I was always enjoying outside of club music. With the *Saga* show I was also driving around using it as a backdrop for my photography. Listening to music and just being inspired by it.

"The last remix that I did was for Das Spezial who are South Coast-based. When I first heard their music I loved it and I played it at this festival in Copenhagen in the Royal Gardens. I was mixing things like Deep Purple into it. It was a sort of family festival in the park where you can play alternative music. I loved what they were doing. And then they sent me this track with this Poppy Mâché vocalist and I was like 'I want to work with this because I'm feeling emotion'. I don't like comping takes together because I find that takes something away. I like to really be deep into that human element. Because now I feel I've finally got the power within my studio to actually do it properly."

Which of your remixes are you particularly proud of?

"If I look back it's tricky because I've actually done quite a lot. I would say it's the latest ones for me. I really enjoyed working with Fontaines DC, that was fun. And then things like Amazing Snakeheads, A Place to Bury Strangers, Soft Moon of course, bless him, Mark Lanegan. Working with them. Gazelle Twin. Just really interesting artists like that. If you're lucky enough to have them in your studio, there's always something to learn."

> "I HAVE 60-ODD INPUTS/OUTPUTS GOING, BUT I STILL MAKE ALL MY DECISIONS AS I MAKE THE MUSIC"

How has your approach to production changed since the '90s?

"If you listen to Juan Atkins records from those days, it was like this future world of future music. And then that future world became almost obtainable; then it became completely obtainable. And now I kind of resent it because everything is controlled by technology. That's not what I dreamt of, it's what I worried about. So now I don't feel 100% comfortable with it. I see technology almost as our weakness for individuality. That's the whole moral thing.

"But with music, I still sort of do it in the same way. Because I learned from just struggling, working with multitracks and things. The British school of recording vs American – Americans always had better equipment, more equipment and more tracks. The British school was that we were still on a budget, so while they might have had 24 tracks, we'd be on an 8-track. So you had to be a bit minimalistic.

"Even though now I have 60-odd analogue inputs and outputs going consecutively, I'm still making all of my decisions as I'm making the music. I think I'm quite similar in that way [to how I was]. I actually record onto two tracks still. As opposed to bouncing it within the DAW, I actually ship it out through all of my analogue pieces of equipment back into the computer, using Steinberg WaveLab as my DAT recorder or my two-track.

"Having so many compressors, I will generally decide now which compressor is going to have the bass drum, which compressors can have the overheads, which compressor is going to have the bass guitar or the guitar sounds and so on – and that's because I know roughly what sonic signature I'm looking for very quickly. I'll use analogue compression probably more than 95% of the time. If you have the real ones it just feels different.

"But when it comes to things like reverb or spatial effects, then the computer is just fucking outstanding for plugins. There are just so many of them. Liquidsonics, for example, what they can do is so realistic. Eventide Blackhole is amazing. It's all about the control, the amount of artistic variation that you can have now with these tools within the box is so much more controllable than we could have ever dreamt up with MIDI.

"Now I've got a super computer and I can literally have six or seven hundred plugins running consecutively without freezing, so that freedom's amazing." FM

WANT TO KNOW MORE?

Dave Clarke's *Red 3* is available now, for the first time digitally, on Skint Records

Neve 1073 mic pre/EQ

The Neve 1073 mic preamp and EQ has been delivering a must-have sound in music production for 50-plus years. Here we trace why that sound became so popular and how you can recreate it today in both modern hardware and much cheaper software…

The Neve 1073 is very high up in that list of vintage gear names that conjure up quality, heritage and, well, expensive price tags. It's a mic preamp and EQ that was first developed as part of a custom-built Neve recording console more than 50 years ago, but quickly gained a reputation by word of mouth, so became a product in its own right.

What the 1073 does to a recording or mix is – as is often the case with iconic pieces of equipment like this – scatter some magic dust on it. Yes, these classic studio legends often have that 'it just makes everything sound good' reputation, but at least we can be a bit more specific with the 1073. It adds some definite warmth to low-end frequencies, some clarity to the mid-range, and a smoother top end, even when you're not being overly dramatic with its onboard EQ – just adding it to your signal chain should benefit whatever audio you're passing through. This comes mostly by way of its circuitry and its input and output transformers which, when gently pushed, result in the extra sonic presence, a mild saturation that gives you the 1073 character.

Where the 1073 differs from many items on that 'lusted-after' list is that it is still in production, and in the 1073's case, in many different shapes and forms. In fact the most recent 1073 announcement was made earlier this year, and is perhaps the one we've all been waiting for, the Neve 1073SPX-D. That's because it's effectively a very 2024 audio interface with a very 1970s Neve 1073 front end bolted onto it.

© Richard Ecclestone/Redferns

MODERN 1073 VERSIONS Newer versions are still designed to the original Marinair specification, alongside modern conveniences

From bespoke mix module to global mix processor legend, here's how the 1073 became the must-have production tool

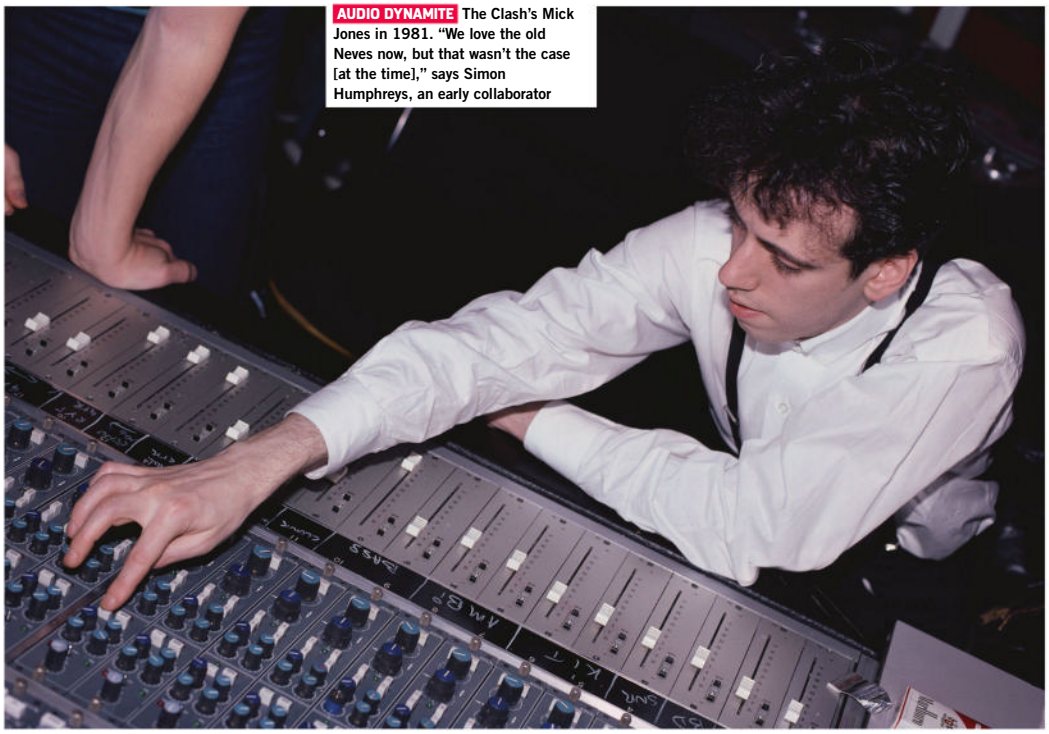
A very brief history

As with a lot of classic audio companies, Neve designed many of the early hi-tech products for the fledgling broadcast industries of the time. The company started out in 1961 and began building compressors, limiters and custom mixing consoles for various UK and US TV and radio stations, and was also responsible for the first transistor-based console for Philips Recording Studios.

In 1970, Neve created a custom console for Wessex Sound Studios in London called the A88. One of its modules was a mic preamp and EQ – again of a solid-state transformer design. It utilised Neve transformers produced in collaboration with a company called Marinair Radar, which allowed low and high-sensitivity microphones to be used with it, and had both input and output transformers to reduce noise and hum.

But one of the happy side-effects of the design of the 1073 module – and one not intended, it has to be said – was the preamp's unique sound, which came from being pushed into saturation. That rather fortuitous byproduct quickly gave the A88 a 'must-use' reputation with the list of artists who would use the studio including King Crimson, Queen, The Clash and The Who's Pete Townshend.

A HAPPY SIDE-EFFECT OF THE DESIGN – AND ONE NOT INTENDED, IT HAS TO BE SAID – WAS THE PREAMP'S UNIQUE SOUND



AUDIO DYNAMITE The Clash's Mick Jones in 1981. "We love the old Neves now, but that wasn't the case [at the time]," says Simon Humphreys, an early collaborator

© Lynn Goldsmith/CorbisVCG via Getty Images

An EQ too

It should also be noted that the 1073 EQ was the perfect partner to the preamp side of the 1073. It might have been initially designed for speech enhancement in the broadcast industry, but with a controlled sound-shaping character across its adjustable low shelf and mid-band, preset high band, and dedicated HPF controls, it enhances a sound that has become incredibly popular in music production. We have more information on the EQ in our tutorial.

The 1073 'sound' became so in-demand that Neve began installing the same or slight variations of the preamp/EQ in many of its consoles, including the 8028 console used in Sound City Studios in LA, as used by everyone from Fleetwood Mac to Nirvana. The company eventually made the 1073 available – and many variations of it – to buy as a separate mic preamp/EQ in the 1970s, although these were initially produced in small numbers, so the original units are very rare.

Other modern 1073s

As we've said, AMS Neve continues to design and build a huge range of 1073 products, and while many other companies also produce 1073-style preamps, it's the transformers used in modern Neve 1073s – still designed to the original Marinair specification – that give them their distinct character.

Current new Neve 1073s include the classic version (around £2,900); the 1073SPX, a 19" rack version for around £1,600; the 1073 SPX-D interface version of the SPX for

£2,295; the 1073LB 500-series 'lunchbox' version for £880; and the 1073DPX two-channel 1073 is priced at £2,600.

Other companies producing 1073 hardware emulations include Warm Audio (with the WA73-EQ for around £770), Golden Age Audio (the PRE-73 for around £150), and Heritage Audio (the HA73 for £399), although you will find many other bespoke versions from other companies on offer.

Software models

There are many, many software 1073 emulations. As you might expect there are top-draw versions from Waves (the Scheps 73, $129) and Universal Audio (the Neve 1073 Preamp & EQ Collection, £299). But they are far from alone in their pursuit of the perfect 1073 sound. The Arturia Pre 73 is one of our favourites and at $99, one of the cheapest (although all of the 1073 suggestions here are often on sale). It's these three big guns that we'll focus on and use in our tutorial tour of the 1073 later.

Not so obvious but delivering an 'authentic, unmistakable British console character' is Softube's British Class A (225), which certainly looks the part. Similarly, IK Multimedia has its T-RackS EQ 73 which gives you 'Classic British Tone & Warmth' for just €99.99. Slate Digital also weighs in with its FG-73, which comes with its All Access Pass subscription (starting at $19.99/month).

Finally – although there are more software emulations if you dig a little deeper – the lesser known NoiseAsh Audio Tools British Class A ($150) is said to be "inspired by one of the most famous and desired British Class-A preamps and equalisers ever made", and has come to have an excellent reputation for delivering the 1073 goods.

SOFTWARE EMULATIONS Slate Digital's FG-73 and Softube's British Class A encapsulate the hardware's charms in accessible form

FREE EMULATIONS Belles Ondes EQ1979 and Analogue Obsession Brit Channel are rare free offerings

HARDWARE EMULATIONS Heritage Audio's HA73EQ and Warm Audio's WA73-EQ offer good value

SURPRISINGLY, GIVEN ITS REPUTATION, FREE SOFTWARE VERSIONS OF THE 1073 ARE THIN ON THE GROUND

Any free Neve 1073s?

Surprisingly, given its reputation, free software versions of the 1073 are thin on the ground. Logic users have the Vintage Console EQ – OK, it's not free per se, but free with Logic (£199.99) – and that includes multiple presets.

Analogue Obsession's Brit Channel claims to have been based on the original 1073 circuit. EQ1979 is a more recent freeware 1073 release from Belles Ondes that also emulates the drive, EQ and HPF character of the original hardware 1073.

FLEETWOOD MAC One of the hallowed acts who recorded at Sound City Studios in LA, which is home to the Neve 8028 Console, featuring 1088 (similar to the 1073) preamps

© Aaron Rapoport/Corbis via Getty Images

How to use it

The old adage 'it sounds good on anything' really is true with the 1073, and it's easy to add some Neve character to any instrument. The red dial on most software emulations can determine both mic and line input gain. Just dialling this towards the negative value of each will introduce the 1073 sound to any audio – it's the negative value as it's measuring sensitivity, not gain. Turn the dial anti-clockwise on the right to increase line gain towards saturation, and clockwise left to increase mic gain. Then, as you'll see in our tutorial, it's a matter of homing in on a particular audio frequency range for a more enhanced 1073 character. FM

A tour around the 1073 via three emulations

Get the best out of a software 1073 using emulations from Arturia, Universal Audio and Waves

01 >

Let's start with the preamp, and the UAD Neve 1073 is a very accurate emulation of the original 1073, right down to its red knob. Turn it right in Line mode to increase the line level and introduce some 1073 character. This is more subtle than the left-hand Mic mode, which is more sensitive and introduces more distortion quite easily, and even at unity gain you should hear some added warmth.

02 >

Various emulations might handle gain differently. The Arturia Pre73, for example, is similar to the original, but upside down, so you dial in the opposite direction to increase gain. The Pre73 also features another transformer, which is 'inspired by another famous brand of vintage equipment'. The difference, though, is very subtle.

03 >

Turning our attention to the EQ and you can see that all the emulations, in this case the Waves Scheps 73, follow the 1073 EQ layout of a fixed high-frequency band at 12kHz for the famous Neve high-end sheen. Both the mid and low have adjustable frequencies and gain, and the key to all three is the smooth shelving, giving more 1073 character.

04 >

Staying with the Scheps 73, we're going to add some lovely low-end warmth and punch to a kick, first driving the low end at 60Hz, then the mids as shown, with the HPF at the bottom just controlling the low end so it's not too boomy.

05 >

Back to the Arturia Pre73 and the EQ is the same, albeit with separate dials for gain on the mid and low channels. Here we're processing a drum loop, adding some low end and low mids and driving the high frequencies a little, but it gives the whole loop a lot more presence.

06

Finally, we have a similar set of values for vocals – what the original 1073 was designed for. On the UAD Neve 1073 we set the mids at 3.2kHz and the gain at just over half. The lows we have upped to 110Hz with a similar gain, and the HPF is set at 50. Again, the before and after is impressive, nothing too pronounced but everything gelling for a complete uplift in quality.

GIGIFM

Danny Turner chats to multi-disciplinary DJ/producer GiGi FM about using gesture motion controllers to create her inter-dimensional club sound

© Emotional Riots

Berlin-based producer Giulia Fournier-Mercadante, aka GiGi FM, practised ballet at the highest level, studying in New York during her teenage years before relocating to London after her dance career was unfortunately cut short. Introduced to DJing by housemates, it wasn't long before GiGi FM became a fixture on South London's close-knit dance music scene, initially a fixture at revered Make Me DJ collective parties prior to residencies at Berghain, Boiler Room and NTS Radio.

In tandem with her successful foray into DJing, GiGi FM began using Ableton, debuting in late 2021 with the ethereal-sounding *Kiwi Synthesis Diary 21k* EP. Further releases, including her latest *Movimiento*, have shifted further into the realm of techno, using sound, colour and movement to create pulsating inter-dimensional club music. While GiGi FM continues to evolve, her longstanding fascination for adopting various body motion technologies to make music by movement increasingly permeates her approach to production.

Tell us about your journey from dance to music?

"I started dancing and playing the piano at a very young age. When I was seven or eight, I learned ballet at the conservatoire and thought, woah, these girls have great tutus, I really want one [laughs]. So I started pursuing dancing more professionally and ended up at the Paris Opera School, which was very prestigious. When I was 11 years old, I started thinking that although I loved dancing to the music what if I could make music by dancing? Then I thought, hmm, maybe I'm watching too much *Star Trek*!"

> "I STARTED THINKING, WHAT IF I COULD MAKE MUSIC BY DANCING? THEN I THOUGHT, HMM, MAYBE I'M WATCHING TOO MUCH *STAR TREK*!"

What was your next step to making music through dance?

"From the Paris Opera School I went to the Conservatoire National Supérieur in Paris, but wanted to travel the world and ended up gaining a scholarship for a summer intensive course at the School of American Ballet in New York. In NYC I discovered Alvin Ailey, who was the first Afro American dancer to build his own company and dance school. I totally fell in love with his approach and got accepted into that school, but when I finished my studies I injured my knee and couldn't dance anymore. Looking back, despite the disappointment, I feel like that was my destiny. It led me to where I am today and gave me the opportunity to explore my childhood dream of making music with my dancing."

How did you end up in London?

"I was 19 when I was told I couldn't dance anymore and ended up working in luxury marketing fragrance at LVMH in Paris, but I missed speaking English on a daily basis so I thought I'd give London a chance and chance took me to a job at Selfridges and Harrods. I never lost my passion for music and dance. While I was working at Harrods, I'd write lyrics, hum melodies into my phone and was going to the gym to try to re-educate my knee and body to start dancing again. One night I went to see Fierce Ruling Diva live at Rye Wax in South London, met this girl and told her about my dream to make music by dancing. She worked at Ableton and suggested I come into their office as they'd just created an Early Bird project and were looking for people who'd never used Ableton before. That's how I started my musical journey."

Were you DJing at that point?

"I started working at the Rye Wax record shop in Peckham, which has closed now, and found myself surrounded by DJs there. My housemate at the time had just bought CDJs and his girlfriend, Lily, introduced me to Rekordbox and suggested I start DJing instead of asking for the aux cable at the afterparties. I was lucky to be in a household where every morning I could practise DJing and fell in love with using CDJs and learning how to loop, edit and create new music on the spot from other people's music. I also saw a similarity between the looping function on CDJs and Ableton's loop-based session view."

Looking at the timeline of your releases, we're guessing the pandemic fell into that period and perhaps gave you the time to fully focus on production?

"Like many producers and a lot of FLINTA ones I've spoken to, from the time I first touched Ableton and got comfortable with the software I went on an inner journey of not really believing in myself. I made a lot of music before the pandemic but wasn't totally satisfied with the sound I was getting out of myself. Covid definitely gave me time to pause and approach Ableton in a different way. I started using the software as a journal and felt I could take voice notes or video recordings to capture moments and create anything out of them. In retrospect, maybe my initial hesitancy was a good thing because, like dancing, it takes a while to learn your craft and technique in order to be liberated from it and take ownership. I wanted to find my own sound and be happy with the quality of the music before releasing something."

Your first EP, *Kiwi Synthesis Diary 21k*, is very atmospheric and underground – almost soundtrack in places. Was it a reflection of your emotions at the time?

"It's my diary of 2021 and has a lot of voice notes taken from myself and my friends. A lot of the textures were made by taking audio from videos, capturing moments and using granular synthesis to turn them into textures, drums and instruments. The EP is very much a meditational soundscape and a diary of both my struggles and happy moments from that period of time."

Three or four months later you released the *Magnetite* EP, which we understand employed some type of gesture control technology to make the music with?

"The title of the first song on the *Magnetite* EP, *Senstronaut*

(MYO), is a word I made up because the track was made by my body using an arm-band motion sensor. I basically danced every single instrument and then layered them on top of each other."

Is the motion sensor technology similar to that used by Imogen Heap?

"Imogen Heap uses the Mi.Mu Glove, where part of your finger is assigned to a MIDI or audio effects rack and she can basically control her voice or instruments with her hands. The Mi. Mu Glove is cute but it's narrowing because it's only a glove and I want to use my whole body. As mentioned earlier, my dream since I was 11 years old is to make music by movement and dancing and the *Magnetite* EP was my first step in releasing that type of music into the world."

What specific technologies did you use to help make the *Senstronaut* track?

"I used a Myo Gesture Control Armband, which basically grabs muscle contractures and the position of your arm in space and sends messages via Bluetooth to Ableton via a Max MSP patch so I can assign any instrument and play it that way. It's a very cool tool but it's been discontinued now and it's not a very stable technology. I've also worked with Kinect Gesture Recognition technology in the past, which is super fun, but the latency is crazy and it's not great for live performance accuracy, which is what I'm aiming for. At the moment, I'm working with other full body motion sensors for making music. The project is already born and called GEM, which stands for Gestural Electronic Music. It's my baby, but I don't want to give away too much at this point."

"*SENSTRONAUT* WAS MADE BY MY BODY USING AN ARM-BAND MOTION SENSOR. I BASICALLY DANCED EVERY SINGLE INSTRUMENT AND THEN LAYERED THEM"

Tell us about your latest EP, *Movimiento*, the title of which sounds related to movement and momentum…

"Bingo – it literally means 'movement'. Musically, it's based on my upbringing and what my parents' house used to be like on a Sunday morning. They always used to wake me up by opening my bedroom door and playing super-loud salsa, jazz or post-punk music, and with this EP I wanted to give homage to my former dancer self and musical origins. In making the music, I wanted to investigate how to catch movement and layer it within the sonic realm."

The opening track *Gabriella* is very expressive and has some wonderful keys – is that your handiwork?

"Yes, I'm playing piano on that track and although there were quite a few takes I was very proud that I could execute a style of music that I'd wanted to make for a long time. I guess it's not really for me to say, but I think *Movimiento* can be listened to anywhere. The music is not only for clubs, but tracks like *Gabriella* are a bridge between techno, jazz and house."

Percussion is a key feature of your sound and it doesn't surprise us, for example, that you have an interest in Indian jazz. Are some of those more exotic percussion sounds infused into your music?

"I appreciate polyrhythmic sounds and rhythms and have a

lot of love for instruments like the tabla, darabuka and frame drum, which have so much depth. I don't know if you've heard of Mohammad Reza Mortazavi, but he's an amazing drum player from Iran and what he can do with any drum is mesmerising. I grew up listening to my parents' love for old Indian, Egyptian, Lebanese and Neapolitan rhythms. For my own percussion, I like to take lots of different samples and put them into Ableton's drum rack so I can use a computer, piano or Ableton Push as MIDI controllers and play lots of rolls and single shots as if I'm playing real drums. If I can do this with my body using my motion sensors too, then the creative process feels so much more alive."

What other aspects of Ableton are important to your production process?

"I love using the Operator synth. When I discovered it, it felt like I'd opened a door into a whole new world. It's so malleable and I love how you can switch between making chords, percussion and absolutely weird soundscapes. There are a few people who make really good YouTube tutorials, so when I was learning it I'd watch a few of those and just try to experiment. Every time I open Ableton I don't really have a goal, I just go by intuition, set a BPM, whack an Operator on a MIDI channel and create some weird experiments. I'm not scared about creating something that might sound fucked up because you can always repurpose it at some point or take the audio and put it into a granular synthesiser, which is a great way to make new textures."

> "EVERY TIME I OPEN ABLETON, I JUST GO BY INTUITION, SET A BPM, WHACK AN OPERATOR ON A MIDI CHANNEL AND CREATE SOME WEIRD EXPERIMENTS"

Have you tried performing vocals for your club tracks?

"Although it might not be obvious, I do use my voice a lot in my productions. Sometimes I'll make pads by singing really long notes with added reverb and other effects, and I like using a really cool tool called the Doubler02 for when I want to quickly lay down a melody that's inside my head. What's amazing with Doubler02 is that you can just open a MIDI channel, choose your instrument or MIDI and sing your melody straight in."

You've mentioned that you see sounds as colours – some people call it synaesthesia. Do you interpret those senses in a very literal way?

"About six years ago I thought that everyone experienced synaesthesia, but through a conversation with a friend I realised that wasn't the case. For me, all sounds have colours and that doesn't just apply to music but sounds in general, for example, I might assign colours to someone's voice or city life sounds. I feel like this sensory experience gives me a particular route to making music and makes my own creative process more fun. I always start a track by thinking about a movement, a shape and colours. To me, music captures a moment in time and makes it present forever, so the environment and characters are important. For example, I might want to create a blue and orange track, or red with a bit of purple or something that's shape is round, spiky or floaty. It's important to set the ground right to tell the story and then I'll think about the character or message I want to portray to help contextualise those feelings. I hope that makes sense."

Does that mean your DAW sessions look a little different in terms of how you might move colours around the screen?

"Most of the time I don't care about the appearance of my MIDI or audio channels on screen, it's more about what's in my mind and trying to move the creative process along as quickly as possible. I'm ADHD, so it's often about creating a note or putting into position the sound elements that need to be there. Ableton is my emotional puke bag [laughs]. It's definitely the best creative outlet for me and I love the freedom the software gives me to be able to make music anywhere."

Do you have any other gear?

"Apart from my MIDI keyboards, I have a Nord Lead 2 synthesiser, which I really love, Ableton Push and a Crystallizer pedal from Eventide. Sometimes I'll go to my friend's house and hijack their modular gear for a hot minute, but I have enough on my hands with the motion sensors to be diving into other types of hardware. My hardware is my body, so I'm trying to focus on that."

Do you mix in the box too?

"I don't have a proper studio and my home is very small, so I don't really have space for much gear. Less is more and I've really found my workflow in the box now. I'm that friend that goes and hijacks other people's gear and that usually works out quite well. For me, the mixdown process is super important. I try my hardest to do as much as possible in the DAW, but feel that mixing and mastering is a different art form to production. I've learned a lot of the basics and implemented them into my productions, but prefer to sit down with a mix or mastering engineer who has expertise while ensuring I still have creative direction of the mixdown process."

You mentioned GEM earlier. When do you think you'll be releasing new material based on what you call Gestural Electronic Music?

"The time for me to show more about GEM is coming and I'm very excited about that, but right now I'm focused on my label Sea~rène and exploring my different musical faces. In the future, I'd like to do some sort of hybrid live performance but I'm taking each step as it comes. There are so many things that I want to do and I don't want to put any barriers on them". FM

WANT TO KNOW MORE?

GiGi FM's latest EP, *Movimiento*, is out on June 7 via Sea~rène. For more information, visit **gigifm.bandcamp.com/album/movimiento**

© Bertrand LAFORET/Gamma-Rapho via Getty Images

PIONEERS

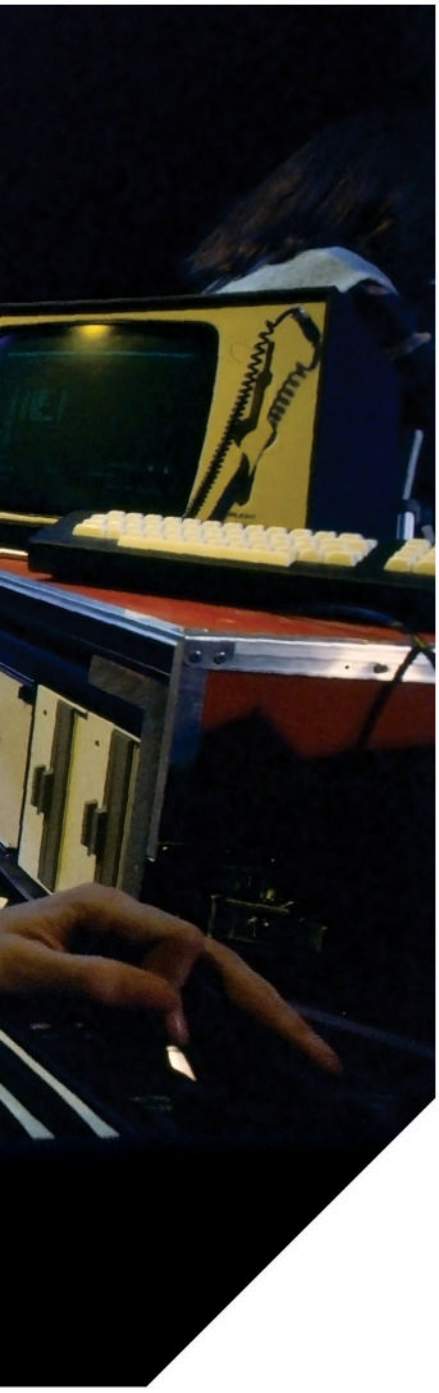
Jean-Michel Jarre

With little around to compete with *Oxygène* when he released it nearly 50 years ago, Jean-Michel Jarre became the pinup of synth pop, and has continued to embrace the cutting-edge ever since. A true pionnier du synthétiseur…

In the 1970s there was no 'electronic music' as such. Well OK, of course there was, but if you were growing up in that grey decade, it was unlikely you'd know that much about it. Kraftwerk, Tangerine Dream et al were doing their thing, but it was largely kept behind closed German doors. Wendy Carlos had made an electronic album or two, but in a classical music vein. In the UK, Keith Emerson was widdling his prog synths, the Human League were just dusting off their white coats, Brian Eno was glitz, glam and ambient, and Gary Numan was yet to find 'that' Minimoog. So it was up to a charismatic French guy to introduce us to pure synth music. And what music.

The door that opened our eyes and millions of sales for Jarre was the track *Oxygène (Part IV)*, yet it was not really what you'd call 'hit record material' for 1976. It started with white noise sounding like the sea – generated by a VCS3 – before taking up a simple beat, an impressive lead melody (that would become the Jarre trademark), and chugging along with other bits and pieces played by an EMS Synthi AKS and ARP 2600 among others. Jarre recorded the whole track in his kitchen, yet it sounds more polished than any veneer drinks cabinet your dad would have owned in the year it came out. And warmer than any 1970s teasmade, come to think of it.

The album *Oxygène* (actually Jarre's third release, but we won't dwell on the first two) was just as impressive, a series of just six tracks, or parts, all utilising the same sounds and synth style.



Brim full of melodies and atmosphere, it was about as outlandish a release in 1976/7 as anyone could wish for, especially those very disillusioned by the constant diet of Showaddywaddy, Max Bygraves and David Soul that the charts served up in those days. We weren't alone in welcoming it across the Channel as it went on to sell some 15 million copies.

Pioneering performer

Similar album stunners would follow like *Équinoxe* (1978) and *Les Chants Magnétiques* (1981). They maintained the synth theme, with *Équinoxe* sounding like a Mk2 *Oxygène*, but even managing to outgun the original on occasion.

Later albums would start to sound jaded against these early triumphs – the second and third *Oxygène* albums, for example, were patchy compared to the first, even though they used the same synth patches (yes, that is a synth 'joke'). However, with all of Jarre's releases he would grab the latest tech to create the tunes, with 1984's *Zoolook* being the first to embrace the then new sampling, and often to great effect.

As if bringing the sound of the synth and music recording technology to the masses was not enough, Jarre would outdo this feat by playing concerts to (literally) millions of people. He was the first western artist to play in China (1981), and while that resulted in a fantastic live album, *The Concerts In China* (1982), it would be his outdoor shows at various venues across the world and over a 20-year period that shifted notches up a few levels.

These included playing at the Place de la Concorde (in 1979) and Houston (in 1986), with each show attracting greater record-breaking crowds, right up to 3.5 million at a show in Moscow in 1997. Jarre played to around 12 million people in total until the turn of the century when presumably 21st century health and safety laws put a stop to them.

Tech trailblazer

Returning to our main theme, Jean-Michel has always loved that technology: from the famous laser harp used to dramatically reveal him triggering sounds on stage with actual lasers, to putting on performances where a huge mirror would rotate above him to show what he was playing. (We even wrote a list of the gear on stage while geeking out at one performance. Trust us, it was a lot. We did get some funny looks while doing it though.)

He still embraces the latest technology releases, including last year's Sound Particles SkyDust 3D synth, and still embraces publicity, like being the first person to drive a flying car (really). But in return, *we* should embrace this six-decade playing Frenchman as one of the true music pioneers of our time. Nous t'aimons! FM

JEAN-MICHEL IN FOUR TRACKS

Oxygène (Part IV)

Disques Motors/Polydor, 1976

It does sound a little twee now given its birth date and simple, ridiculously memorable melody, but this is probably the only synth instrumental that you could play at a wedding party and get away with it. Well, we'd dance to it. It was ground-breaking for its day, became an unlikely hit taking electronic music to the mainstream, and caught the attention of many a future synth-smith.

Équinoxe (Part I)

Disques Dreyfus, 1978

Équinoxe (Part V) might be the scene stealer with its impressive lead synth line (and betters *Oxygène* in our opinion), but *Équinoxe (Part I)* is the atmospheric introduction to Jarre's follow-up album, and his beautiful welcome to what his studio kitchen was cooking up. You can probably play it on a Super Gemini these days just by looking at one and not even switching it on, but back in '78 it was black magic.

Les Chants Magnétiques (Part 4)

Disques Dreyfus, 1981

By now you should be getting the drift: we're going to have a simple but insistent lead synth, and we'll build in some layers, add some effects, even a vocoder in this case… It's a repeated, simple process, but Jarre's execution on this track is especially brilliant. Not that low in tempo, but it feels as laid-back as any Jarre track; one that will have you dreaming of swimming in an ocean of synths. Does us anyway.

Souvenir of China

Disques Dreyfus, 1982

One of the surprise bonus tracks on *The Concerts In China* double album as it's not from any previous Jarre album (but would easily have made the cut if asked). We don't like the drum fills towards the end but there's real emotion here, with 'samples' of Jarre's tour, strings to die for and a proper nostalgic feel. If anyone ever tells you synths are too cold, send them round ours and we'll play them this.

FutureMusic Platinum Award

Arturia PolyBrute 12

€3,999

The French flagship synth gets upgraded with more voices and better aftertouch. **Si Truss** explores its new capabilities...

CONTACT **WHO:** Arturia **WEB:** arturia.com **KEY FEATURES** 12 voice multitimbral poly synth combining analogue signal path with digital modulation tools and effects. Two oscillators and sub oscillator per-voice. Dual filter section with independent ladder and Steiner-Parker filters per-voice. New keybed with FullTouch polyphonic aftertouch

THE PROS & CONS

+

One of the best applications of aftertouch we've seen on any synth

Multitimbral, morphing sound engine benefits from the increased voice count

Flexible digital effects and stereo signal path are wonderful for grand, cinematic sounds

–

An expensive synth that faces some stiff competition at the top end of the market

Ordering of presets is quite haphazard and awkward to browse from the hardware

Arturia's original PolyBrute arrived in late 2020. Combining elements of both the company's analogue and digital heritage, it came across not only as a flagship for Arturia's hardware synths, but also a culmination of all the things that had made the 'Brute range interesting over the previous decade. It featured the raw analogue oscillators and distinctive 'Metalizer' wavefolders first seen on the MiniBrute, as well as a button-grid interface and dual-filter design similar to the MatrixBrute. The digital effect section, meanwhile, leant heavily on processors also found in Arturia's Pigments soft synth.

I reviewed PolyBrute at launch and came away very impressed. Not only was it sonically characterful, but it placed a welcome emphasis on expressivity. This was most evident in the inclusion of the various touch-sensitive elements including the 'Morphee' multidimensional pad and CS-80-like ribbon controller. These were supported by a multitimbral sound engine that not only let users split and layer two distinct synth patches, but also fluidly morph between two disparate sound states.

As someone who is – charitably speaking – a middling keys player at best, when I get hands-on with a new polysynth my impulse reaction is usually to hold down a chord and see how much depth and interest I can wring out of it by tweaking the UI's various hands-on controls. The PolyBrute is an instrument that holds up especially well to this particular test; its morph controls, dual filters and extensive modulation tools can take a simple droning chord from lush ambience to gritty, rhythmic chaos and back at the twist of a few knobs.

Seeing as it performs so well at these kinds of ambient and cinematic tones, one of the key criticisms that could be levelled at the original PolyBrute was its lack of voices. With only six voices available, polyphony could quickly get gobbled up, particularly when creating multitimbral patches. Thankfully, with the launch of the new flagship PolyBrute 12, Arturia has addressed this.

In terms of its core design, the 12 is pretty much identical to the original PolyBrute, so I won't spend too much time discussing the synth engine itself here. You can revisit our original review – musicradar.com/reviews/arturia-polybrute – for more. To quickly recap though, the PolyBrute has two analogue oscillators per-voice, which feed into a dual filter section with independent ladder and Steiner-Parker style filters that can be arranged in series or parallel. It offers a range of easily-routable modulation tools, including a function generator-like Curve LFO. The effect section is all-digital, with three modules that can load a variety of impressive processors. It also has a stereo output and a nice stereo spread tool for increasing the width of patches.

Setting up

With a few exceptions, almost all parameters can be set up in A and B states, which allow the user to blend between two different patches using the morph control or a modulation routing. As well as standard poly mode, the synth can also be set up with multitimbral layers or splits, which divide the voice count evenly between A and B timbres. In layer mode, the morph control adjusts the balance between A and B layers. In split mode, meanwhile, the lower end of the keyboard controls a static A state, while the higher range can be morphed between A and B states.

The double voice count instantly pays dividends when these multitimbral modes come into play. In layer mode, it effectively means that users can stack two full PolyBrute sounds on top of one another. The synth has also been expanded with some nice firmware enhancements since our original

THE ALTERNATIVES

UDO Super Gemini £3,500
Another complex, multitimbral synth combining elements of analogue and digital, with a unique fully binaural signal path
udo-audio.com

Novation Summit £2,350
Novation's Summit boasts 16 voices, balancing digital oscillators with analogue filters and amps. A hugely powerful synth for the price
novationmusic.com

Waldorf Quantum £4,200
A hugely complex and powerful 16-voice synth combining analogue and digital elements, with poly aftertouch
waldorfmusic.com

review – all of which are carried across here. Highlights of these include the ability to layer synth voices across the left and right channels, for enhanced stereo sound design, as well as better effects routing options and an added distortion effect.

While the interface layout is largely unchanged, the increased voice count has necessitated a slight redesign to the hardware. Internally, the additional voice cards are stacked on top of each other, meaning the synth's body is significantly taller – and heavier – than its predecessor. A row of vents has been added along the top edge of the unit too, to disperse the additional heat. The PolyBrute 12 also swaps the blue of the original for a cream design that, combined with the wood panelling, gives the synth a vintage look that nicely offsets the modern design of the mod matrix and interface.

The other significant update here is the redesigned keybed. This adds a new and fairly unique take on aftertouch, which helps double down on the expressive qualities of the PolyBrute.

Aftertouch now functions in three modes. The first of these is straightforward monophonic aftertouch – ie, pressing down on the keys affects all notes simultaneously. The second mode is polyphonic aftertouch, now a fairly common feature on many high-end synths and controllers, where the aftertouch zone of each key responds individually, allowing users to add expression to individual notes in a chord.

FullTouch mode

Where PolyBrute 12 becomes particularly interesting is in its third 'alt' aftertouch mode. Here the keys function in what Arturia labels 'FullTouch' mode, which effectively means that the entire range of travel of each key is used for expression rather than just the very bottom of the key press, as in standard aftertouch. As a result, the 'note on' for each key press is much higher and quicker to respond – with minimal amp envelope attack, a note will sound the moment a key is depressed even slightly.

There are actually three different FullTouch functions within the alt aftertouch mode. The most basic of these simply uses the entire key press for an extended range of aftertouch expression. The FullTouch + Z setting, meanwhile, splits the key press range into two range sections where the upper acts as aftertouch and the lower is routed to the 'Z' modulation assignment of the PolyBrute's Morphee controller.

The most powerful of the FullTouch configurations, however, is

> It's remarkable the level of expression the aftertouch brings to PolyBrute 12

POLYBRUTE CONNECT

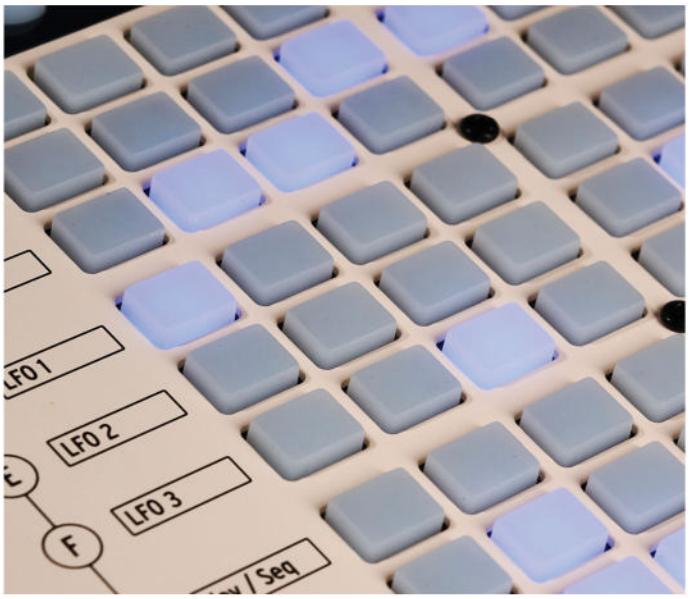
As with other devices at the more digital end of its hardware lineup, Arturia has developed a librarian application for the PolyBrute. The PolyBrute Connect app can run as a standalone tool or as a VST, AU or AAX plugin within your DAW. In the latter form, it effectively acts as a digital interface for the synth, allowing the user to control and modulate the synth as if it were a plugin – although unlike something like Elektron Overbridge, it doesn't also facilitate audio-over-USB.

Its most useful application, however, is for browsing and organising presets. PolyBrute 12 comes with a generous crop of quality factory sounds, but browsing said presets is one of the few weak spots of the hardware design. Although the button grid makes it easy to hop between presets, these are organised in a haphazard manner that might be great for aimless discovery of sounds but is a bit clunky if you want to, say, peruse just basses, or work out which sounds use the new aftertouch functions. Fortunately, PolyBrute Connect makes finding and organising sounds far smoother.

the FullTouch Envelope mode. In this mode, the travel of each key press is used to control the amp and filter envelopes – ie, a slow press of a key will result in a longer attack, etc. Rather than overriding the synth's standard ADSR envelopes, this works in conjunction with them, allowing for a high level of customisation over the response of each note. Additionally, the function of the velocity sliders for the filter and amp change slightly in this mode, instead used to add a percussive 'bump' at the point of note-on, for a pluckier sound.

As features go, it's a little difficult to appreciate without really getting hands-on with the keyboard itself, but in action it's remarkable the level of expression this brings to PolyBrute 12. It works particularly well for pads and drones, where simply holding down a complex two-hand chord and adjusting the weight and movement of your individual fingers can create an evolving wash of overtones and shifting harmonics. That said, these FullTouch modes work great when used in conjunction with the sequencer and arpeggiator too, allowing the user to hold down the notes in a pattern or riff and apply differing levels of expression to each by adjusting the weight of each press.

Arturia refers to the new keybed as being MPE – which is technically correct although it doesn't function in the way users of something like a Roli Seaboard or Push 3 might expect. While the keyboard can send pressure and slide messages polyphonically to your MPE instruments, these are triggered from the two zones of the FullTouch keyboard, so it doesn't allow for users to slide between pitches quite in the same way as other MPE controllers do.



KEYBED: The newly designed keyboard makes use of Arturia's new FullTouch polyphonic aftertouch tech

VENTS: The additional voice cards mean the hardware is taller, with the need for cooling vents to disperse heat

MATRIX: One of PolyBrute's standout features. The Matrix can be used to quickly create modulation routings and browse presets

FILTERS: The powerful dual filter design allows the two filters to be flexibly routed and blended in a variety of ways

Awesome aftertouch

It would be hyperbolic to suggest that the PolyBrute 12's application of aftertouch is completely revolutionary – while it is unique, there are comparable approaches to be found by the likes of Expressive E as well as the growing list of MPE controllers on the market. For my money though, it's the most expressive application of this kind of technology built into a specific hardware instrument. Combined with the new voice count, it really brings the PolyBrute to life as a rich, expressive instrument.

Of course, with these extra features comes a bump in price, which puts PolyBrute 12 right up at the top-end synth market. While I've emphasised the instrument's capabilities for atmospheric and cinematic sounds in this review, it's worth stating that it also does bread-and-butter synth tones wonderfully well, from retro pads to rich basses and leads. The addition of the wavefolders and digital effects makes the instrument particularly adept at cutting, modern sounds too.

Still, PolyBrute 12 now sits at a price point where it faces some serious competition, including the likes of UDO's excellent new Super Gemini, the Groove Synthesis 3rd Wave, Waldorf Quantum and Sequential's Prophet 10. It would be a tough call to pick an outright 'best' from that list.

Aside from the imposing price point and some very minor preset quibbles (see boxout), it's hard to find anything negative to say about the PolyBrute 12. This is an all-round winning upgrade to an excellent poly, and those that can afford the outlay will find a synth with enough depth to warrant its top-end price. **FM**

FM VERDICT

9.7

The PolyBrute was already a fantastic synth, but this update puts it up there with the best – and most forward-thinking – synths out there

KRK Rokit 5 G5

£169 each

KRK's excellent Rokit monitors have been updated. **Jon Musgrave** gets talking about the new generation

KEY FEATURES **LF DRIVER:** 5" woven Kevlar aramid **HF DRIVER:** 1" silk dome copper cap **CROSSOVER FREQ:** 2.27kHz **CLASS D AMPLIFICATION:** HF 20 Watts, LF 35 Watts **TOTAL DYNAMIC POWER:** 130 Watts **MAX. SPL:** 104dB (@1m) **INPUT:** balanced XLR, TRS combo connector **EQ:** High 10kHz shelf +/- 2dB, 3.5kHz peak +/- 1dB, Low 60Hz shelf +2, -3dB, 200Hz -2dB peak

KRK's Rokit series is one of the most established monitor ranges, and although very affordable and considerably cheaper than its flagship V Series, they offer great sonics and decent features. The new fifth generation release has three models built around 5", 7" and 8" woofers, and it's the smallest Rokit 5 Generation Five I have for review. Before I get started, it's worth mentioning that although these monitors replace the fourth generation Rokits, the third generation Rokits are still available and are known as the Classic Series. So if you'd rather have physical controls and Class A/B amplification at a similar price point, it's worth bearing these in mind.

Rok solid

The Rokit 5 G5 is a 2-way front-ported, bi-amped monitor with Class D amplification. At first glance it looks very similar to its predecessor, and once again speaker volume and EQ are both accessed via the rear menu-driven LCD screen and rotary encoder. Even so, there are some changes, most notably the 1" silk dome tweeter. The monitor ships with two detachable baffle faceplates so you can have either open or grille-covered cones. In the box, you'll also find a 2-part foam-mounting pad. These shallow wedge-shaped pads allow for various mounting angles, and if you stack them appropriately can also be flat. For regular table or stand mounting you'll find the speakers also include a thin, high-density foam pad glued to the underside, while for bracket mounting there are mounting screw holes on the bottom.

À la Modes

The EQ option is split into high and low frequency bands and within these bands there are five preset options for each. The EQ is aimed at typical room tuning and boundary correction duties and offers cut/boost at fixed frequency points – 60Hz shelf and 200Hz peak for the low band, and 3.5kHz peak and 10kHz shelf for the high band. In addition, and new to this generation, there are three global voicings: Mix, Focus and Create. As you might expect, Mix mode is flat, and thus provides the Rokit 5's intended studio monitoring sound. In this mode, and not unusual for smaller front-ported monitors, the low frequency punch delivered by the port leaves the low mids feeling slightly light. Even so, it's not a big worry, and if you do want a fuller sound and crisper highs, then this is what Create mode delivers. This mode also doubles as a great general listening/hi-fi setting. Rounding things off, Focus mode emphasises the midrange. This isn't suited to mixing, but is definitely handy when editing, and it's ideal for dialogue projects. Cycling between the three modes is very easy using the LCD encoder, and this certainly facilitates changing modes for specific tasks.

The Rokit 5 Generation Five is ideal for smaller rooms and spaces and also suitable for surround applications. The new soft dome tweeter adds finesse to the top end and although there is plenty of scope to apply EQ, I really didn't feel the need to move that far from the factory flat setting, which is very encouraging. Overall, this is a great speaker and should definitely be on your audition shortlist. **FM**

FM VERDICT

9.5

The latest compact monitor offers a more refined delivery than its predecessor, with flexible EQ to meet various usage scenarios

THE PROS & CONS

+

New silk dome tweeter

Three preset EQ voicings for common applications

Flexible 2-part mounting pads

Choice of faceplates

Well-tuned flat monitor sound

Good value

–

Low-mids can be a little light in some modes

1010music Nanobox Tangerine £388

This latest Nanobox could be pushing for the title of world's smallest sampler, **Si Arblaster** asks if it needs to be that small?

CONTACT **WHO:** 1010music. **WEB:** 1010music.com **KEY FEATURES** Compact Streaming Sampler. Up to 24 voices of polyphony and 16 sequences per preset. 32 GB MicroSD card with 85 presets and over 1500 wav files. Colour matched USB-A to -C power cable and 5-pin MIDI to TRS cable included. **I/O:** 3.5mm MIDI in/out, Stereo line in/out, USB-C, Micro SD card slot. **DIMENSIONS:** 95 x 76 x 38mm **WEIGHT:** 110g

THE PROS & CONS

+

A multitude of sampling options

SP-x0x-inspired workflow

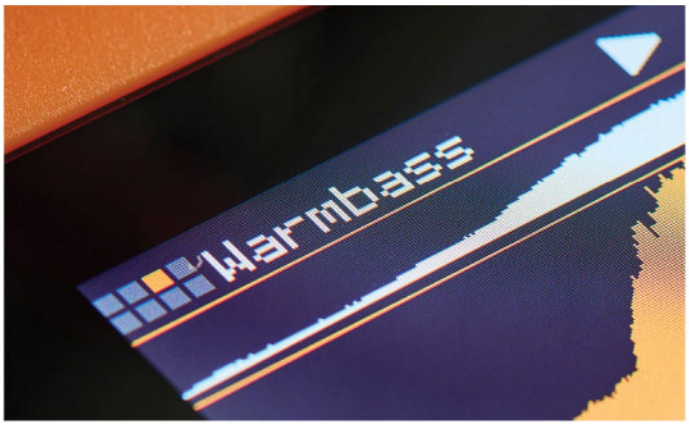
A ton of bundled sample content

–

No onboard power

Sequencer slightly lets the side down

Could do with more effects



So far, the entire Nanobox range is generally a force for good

1010music has been knocking out the Nanobox range for a few years now, and while the diminutive noise-makers have been mostly well-received, we've still had our reservations over usability within a device of this size. First to fly out of the blocks were the Fireball wavetable and Lemondrop granular synths, which managed to pack a lot of sonic power in such a small footprint. Then along came the Razzmatazz, all pretty in pink and chock full of lo-fi grimy FM beats. Now we have the fourth instalment in the Nanobox range, the Tangerine. Can this tiny sampler cut the mustard or will it fall foul of similar issues we've seen in the range so far?

A quick tour of the specs and the controls are very much the same as before with the two rotary dials, four buttons and touchscreen adorning the front panel. The I/O is also the standard Nanobox fayre with 3.5mm MIDI in/out (5-pin DIN adapter incl.), Clock out, stereo line in/out and a micro SD card slot loaded with over 500 samples (1500 wav files), with the unit's power coming via the USB-C port (USB A to C cable incl.). The selection of samples on offer is varied from the utilitarian to the abstract. The preset list starts with multi-sampled pianos before working through beats and synths to foley and sound effects from Soundtrack Loops. Previous Nanobox users will be familiar with the layout with navigation on par with Razzmatazz. This also means the return of the Teleporter, a quick navigation page that allows you to quickly jump to each menu window. Holding down the Home key at any point will magically teleport you to a page with all the menus laid out. Honestly, without this, you can get lost navigating your way around all the menus and sub-menus.

Tangerine has up to 24 notes of polyphony if utilising the 64MB of onboard storage per sample pad, which is then divided for each subsequent sample pad used, or eight stereo files running from the micro SD card with a max sample size of 4GB. Each pad can operate in four different modes: Sample for one-shots, hits and multi-sample for mapping across the keyboard, Clip for creating quantised loops and Slicer for triggering different sections within a WAV file. Despite being called a 'Streaming Sampler', suggesting only sample playback is available, the final pad mode available is Record. You can sample directly via the stereo line-in port and create your own multi-samples, one-shots or loops. There's an SP-x0x-like workflow here, which felt slightly tricky at first, but soon became pretty painless and ultimately fun. This is where Tangerine's albeit small screen comes to the fore. It's responsive and there's

THE ALTERNATIVES

Teenage Engineering EP-133 K.O.II £299

Retro vibes for days with TE's newest sampler. Yes, it's limited, but an onboard mic and plenty of effects add to the fun factor

teenage.engineering

Roland SP-404 mkII £440

A cult classic! The mkII makes tons of improvements without alienating the fanbase. It's the 'pros' choice

roland.com

Novation Circuit Rhythm £359

The best playable pad experience in the sub £/$500 sampler market and the Li-ion battery delivers up to four hours of play time

novation.com

no lag with the UI, which in itself is thoughtfully designed overall. However, for the full 'sampling' experience we feel you will need to plug in a MIDI key or pad controller to get the most out of it.

The main limitation with Tangerine when compared to Razzmatazz is the lack of sequence editing. One of Razzmatazz's plus points was the addition of the Super Stepper, which doesn't make a comeback here, unfortunately. Although understandable given that Super Stepper is only capable of dealing with just one-shot samples, we would've liked to have seen an evolution of the sequencer here. Generally, the sequencing on the whole is a bit of a letdown. A bigger screen, for instance, could be the answer for implementing something like a piano roll for sequencing melodic content, although, more realistically would be a tracker-like sequencer. To further compound the issue, there isn't even an option to undo a recording or an overdub at the moment, but possible in a future firmware update perhaps? For some, such limitations can be seen as a positive. The lack of sequence editing will force you to change your approach when hitting that record button. You can either hone your skills to capture the perfect take when building up a clip or embrace the happy accidents and wonky takes. That's what sampling is about, right?

Another minor negative point is that Tangerine only features two effects, delay and reverb per pad with a global compressor. It's got us feeling a little cheated when compared to the rest of the Nanoboxes, which are far richer in signal processing. Razzmatazz, for instance, comes with three effects slots, with the third one reserved for distortion and a cab sim and it feels like distortion is what's missing from Tangerine. Presumably this limitation is giving way to far more hungry parameters and functionality, which is fine, but we're wondering if one slot for spatial and the other for more sound-mangling effects would've been better?

So far, the entire Nanobox range is generally a force for good. 1010music has done a fine job of ramming a lot of sampler into a tight space. The main caveat, however, is true portability, or the lack thereof. No onboard battery seems to nullify the need for such a small device. Price-wise, Tangerine is up against stiff competition in the diminutive portable sampler stakes as well.

To create a feature-rich UI within the contraints of a screen this size is no mean feat, but we'd still like it to be a bit bigger. FM

MIDI I/O There's no MIDI over USB here, but it comes bundled with a 5-pin to 3.5mm cable. Choose A or B output type in the settings

TOUCHSCREEN It's tiny and sometimes a bit fiddly, but the slick UI and responsivity make Tangerine a breeze to use

START AND END The handy waveform display gives you a better idea of those start and end points

PAD POWER

Within each pad, samples can be processed within two menus, the Macro screen for processing pitch, panning, level and filtering, with further access to the LFO, envelope, and then the Position and Configure menus. Within Configure, you can select the sample Launch mode, whether it's Trigger to play the sample in its entirety, Gate which plays until the pad is released, Tap to start the sample and then a second tap to stop it or Piano, a combination of Gate and Trigger modes to better emulate a piano's behaviour. Here you can also set up Exclusion Group for preventing one or more pads from playing at the same time.

FM VERDICT

7.9

The Nanobox range gets a sampler and a powerful one at that. 1010music has done a great job squeezing so much into this tiny box.

Make great music on your PC or Mac!

Computer Music is the magazine for musicians with a PC or Mac. It's packed with tutorials, videos, samples and exclusive free software.

AVAILABLE NOW FROM www.magazinesdirect.com

Available digitally on these devices

Available on the App Store · GET THE MAGAZINE ON Google play · Available at amazon · nook · zinio™

Lewitt Ray

£299

Beat the proximity effect with Lewitt's exciting new range detection technology. **Chris Corfield** goes live

CONTACT **WHO:** Lewitt **WEB:** lewitt-audio.com **KEY FEATURES** Aura range detection, Mute by distance, Large diaphragm condenser, XLR connectivity, comes with shock mount, pop filter and wind shield

If you're familiar with microphones, either through recording, performing or streaming, then you'll likely also be familiar with the proximity effect. This (usually) undesirable phenomenon shows itself when you move too close to a microphone and are rewarded with boomy, bass-heavy recordings. Up to now, it's just been another thing producers and sound engineers have to contend with when they're recording microphones. But Lewitt, the Austrian mic brand, is nothing if not innovative in this space.

The Lewitt Ray looks on first glance like yet another large capsule condenser aimed at podcasters. It's slightly shorter and stubbier than similar mics of its ilk, but has a pleasing weight to it. However, with the new Aura technology front and centre of the Ray's spec sheet, we have something quite unique that should excite podcasters, streamers and musicians.

Balanced Aura

The Aura functionality – currently going through the patent process – is very impressive indeed. It uses a 'time of flight' sensor to identify where you are in relation to the microphone. By taking this measurement, the mic instantly adjusts the tone or level of what it's capturing, giving you balanced recordings without big peaks or dips in your sound's volume or timbre. Active between 5cm and 100cm of the mic's front, it gives plenty of room for the subject to move around without it affecting the final sound too much. Lewitt calls it autofocus for your voice, which we think is a good way of visualising the effect.

Naturally, the room in which you're recording will still have an impact on the outcome – the sound a mic captures from 5cm will be different to 100cm away, on account of a space's size and the resulting reverb. So taken to extremes, you might find the sound has a strange colouration to it. Within sensible limits, however, Aura does a great job of delivering balanced, dynamic sounds at superb quality levels.

Mute button

Another neat feature the Aura tech allows the Ray to do is mute by distance. You decide a predetermined threshold using buttons on the front of the mic, and then the mic will automatically mute you if you move beyond that. It's a simple trick but useful nonetheless. There's also a dedicated mute button – not something you often find on an XLR microphone.

Despite all this digital trickery, the actual signal path is 100% analogue. Connectivity is handled by XLR, which requires 48v phantom power from your mixer or audio interface, and we liked how the package includes a chunky shock mount, magnetic pop filter and foam wind shield.

So who is the Lewitt Ray for? We think the Aura features in particular, especially mute by distance, lend themselves neatly to the world of podcasters and streamers, where the goal is surely to forget there's a microphone in front of you in the first place.

For musicians, there is plenty to be excited by too. Recording acoustic guitars, for example, can be made simpler on account of the fact that the player doesn't need to remain rigidly still when capturing a take. By handling those minute variations in proximity automatically, the Lewitt Ray allows users to focus on what they're saying, or doing, rather than how it's being captured. FM

FM VERDICT

8.7

The Lewitt Ray introduces Aura range detection and makes us wonder how we lived without it. A superb option for podcasters, streamers and musicians

THE PROS & CONS

+

Range detection works like a charm. Recordings are balanced and consistent throughout

It's a chunky, well-made microphone that can handle life in a busy studio environment

Ray's short, stubby form factor lends itself well to being used on camera, where other larger mics might obscure the subject

–

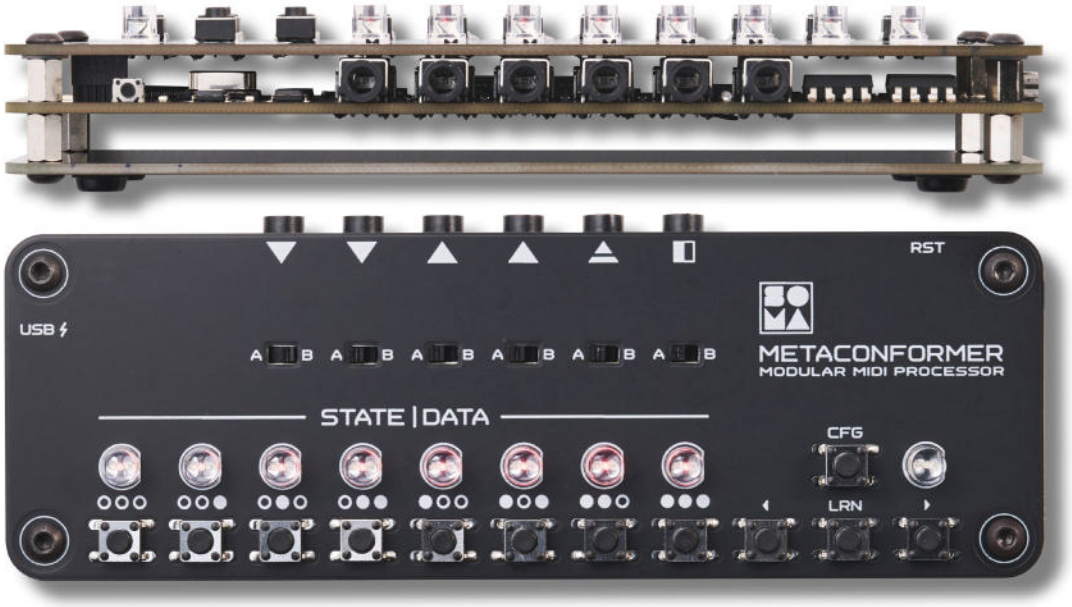
Aura works best when you're sensible with it – move too close, or too far away, and there can be colouration to your recordings

SOMA Labs Metaconformer

£175

As **Si Truss** discovers, SOMA's latest is more than just a basic MIDI thru box

CONTACT **WHO:** SOMA Labs **WEB:** somasynths.com **KEY FEATURES** **I/O:** 2x MIDI in, 3x MIDI out, 1x hybrid MIDI/sync out (MIDI to TRS adapters required). USB for power only



SOMA is best known for esoteric instruments such as the Lyra-8 'organismic' synth, Pulsar-23 drum machine and Terra, a microtonal synth built into a solid block of wood. Compared to these, the company's new device Metaconformer is fairly conservative.

Metaconformer is a MIDI router and thru box. It has two MIDI inputs and four outputs. In typical SOMA style though, Metaconformer does more than simply route MIDI.

The device functions in three modes, each making use of eight MIDI 'cells'. The first of these modes is a Splitter function. This lets the user set up keyboard splits in order to play two or more instruments from a single input. In this mode, each of Metaconformer's cells is assigned a set range of MIDI notes and outputs them to a specific MIDI channel with one of a variety of transposition options applied. At a basic level, this lets the user play multitimbral parts from a single keyboard, as you might a stage piano or multitimbral synth. However, since the assigned ranges can overlap with differing transposition settings, it also opens plenty of interesting options for layering multiple instruments.

The Combiner mode can be similarly creative. This allows for multiple hardware instruments to be controlled like a single polysynth. This works by assigning each of Metaconformer's cells as an individual voice, which then output to an assigned MIDI channel. Playing chords causes Metaconformer to route each new note to the next available cell, as a polysynth would with its available voices.

In typical SOMA style, Metaconformer does more than simply route MIDI

The final mode is named Translator. Here Metaconformer changes incoming MIDI notes into CC values. Each cell is assigned to output to its own MIDI channel and CC number. By connecting two MIDI controllers – or two Metaconformers – it's possible to 'play' both the notes and parameters of a synth at once.

Usefully, aside from these creative uses, Metaconformer can also act as a simple MIDI thru box. The final output can double up as a sync out too, allowing Metaconformer to be used as a clock divider.

In this sense, Metaconformer can be a useful little studio utility, and its creative capabilities can be very inspiring. While each mode is superficially straightforward, you can happily lose hours to pondering the many ways it's possible to make the device interact with your favourite hardware synths.

That being said, there are a few functional annoyances. The biggest of these is the fact that the device requires a USB connection for power but doesn't accept MIDI over USB. This means that you'll need to make use of a USB port (or adapter/power bank) in order to use Metaconformer, but don't have the convenience of also using that connection to route MIDI from a DAW. The unit also ships without any of the necessary MIDI/TRS adapters or a USB lead for power, which uses the increasingly less-common mini USB-B. All of which feels a little tight given its relatively high price compared to some other MIDI routers. FM

FM VERDICT

7.2

Despite being a slightly niche device with a few functional annoyances, Metaconformer remains unique and inspirational

THE PROS & CONS

+

Trio of MIDI routing modes open up a wealth of creative possibilities

Compact and convenient design

Can also send sync messages and act as a clock divider

–

No USB MIDI, despite the USB input for power

Necessary adapters and leads aren't included in the box

User manual can be a little confusing

Kali Audio LP-8 Second Wave

£390/pair

Simon Fellows asks if the LP-8's powerful new wave cancels all that came before

KEY FEATURES **AMP CLASS:** D **HF POWER:** 40W **LF POWER:** 60W **TOTAL POWER:** 100W **HF DRIVER:** 1-Inch Textile Dome **LF DRIVER:** 8-Inch Optimized Paper **FREQ RESPONSE (-10 DB):** 37Hz - 25kHz **FREQ RANGE (±3 DB):** 45 Hz-21kHz **MAX SPL:** 117dB **ENCLOSURE:** Front Ported

So impressed were we with Kali Audio's second gen LP-6 monitor, we found it hard to fault on performance or price. Its bigger brother, the LP-8 (the LP stands for Lone Pine), boasts a very similar spec but costs a little more, so which should grace your studio?

First, a recap of our earlier LP-6 review. Both monitors are reboots of Kali's original LP series, hence the tag 'Second Wave', also a nod to the two sound waves found in the logo.

These updated monitors use a new Class D amplifier platform that provides a 12dB reduction in noise, thin paper woofer cones for a faster transient response and robust DSP for smoother, accurate high frequencies. Kali also uses an oversized, high-output, dual-layer voice coil, specifically to cut distortion. Not everything is new, the 1-inch tweeter remains the same, as does the wide front port that has already earned a great reputation for its lack of extraneous noise.

The LP-8's enclosure is made from medium density fibreboard (MDF) wrapped in textured vinyl, just like its smaller sibling. The front panel, my biggest bugbear, is a big slab of plastic that's functional, yet betrays the LP-8's budget origins.

So, what does it sound like? Is a pair worth the extra expense over the LP-6s? Setup is easy thanks to the multiple inputs – TRS, XLR and RCA – and its generous number of boundary EQ options, configurable on the back panel. I played a variety of tracks through both sets of monitors, including my own solo acoustic guitar, piano, synth, bass and drum tracks via Logic Pro 10.8. I also listened to complete songs from artists as diverse as Beyoncé, Artemas and Teddy Swims, with a smattering of Kankyoō Ongaku (Japanese ambient).

Kali's mantra for these products appears to be 'more accuracy, less distortion' which, to my ear, is bang on. The LP-8 is near silent when powered up, but with nothing playing through it (the low-level hiss of some budget nearfield monitors drives me to distraction). Start playback and the result is super clean. That's not to say there's no warmth to bass or mids, but no frequency is accentuated over another, and the entire spectrum is very articulate.

In fact, both the LP-6 and LP-8 share near identical frequency response curves, which are almost flat from 50Hz to upwards of 15kHz, with a slight dip at around 700-900Hz. The LP-8 does have a slightly lower bottom end frequency response at 37Hz vs 39Hz, and a half percent improvement in total harmonic distortion, which stands at 2.5% at 94dB at 1 metre. The LP-8 is also 20W more powerful than the LP-6.

So, for the extra cash, the LP-8 boasts improvements over its little sister, but they're hardly significant. Either monitor will suit smaller rooms too, as neither is particularly large. The LP-8 is a fine monitor, but if it's a touch too expensive, there's no shame in investing in a pair of LP-6s and saving up for Kali's WS-6.2 sub. **FM**

FM VERDICT

9.0

The LP-8 is super quiet, accurate and won't colour your mix. However, the cheaper LP-6 is almost as good overall

THE PROS & CONS

+

Excellent value. Only the plastic faceplate cheapens the look, but then looks really aren't everything

Self-noise and distortion were already good, but now better. Accurate sound with little to no character is perfect for mixing

Comprehensive boundary EQ settings enable easy placement in a variety of room types

–

Kali's LP-6 offers almost as much for a fraction less money

Setting the boundary EQ is a little fiddly, but we're nit-picking

4ms Catalyst Sequencer/ Controller £395

This dinky two-in-one module can flip between sequencer and controller modes. **Rob Redman** finds out if it's double the fun

CONTACT **WHO:** 4ms **WEB:** 4mscompany.com **KEY FEATURES** Two modules in one, Eight channel sequencer for gates and CV, CV recorder, scene/preset manager

Sequencers in the world of modular are easy to find, with most falling into one of two camps. The more structured rigid type, where you may have a few channels of step sequencing, allowing you to programme a bass, melodies and drum pattern, with some modules varying their offerings slightly. Then there's the other type, which is much more about randomness and happy accidents. Think Erica Synth's Black Sequencer vs Intellijel's Metropolix. Both worthy contenders and excellent in their own right but what if there's another way?

Well, 4MS believes there is and that it comes in the shape of the 20hp Catalyst Sequencer, which certainly has more than a few tricks up its sleeves.

First off is the size and layout. For something with this much capability it is positively tiny. 20 hp for a 64-step, multi channel sequencer is impressive but how do you interact with it? Surely there must be a lot of menu diving. Well, no. There are a few button combos to memorise and the illuminated knobs change colour to signify what settings you have input and, while this does take a little time to recall, it isn't too bad and the module ships with a handy printed guide, which really aids in that.

Catalyst has eight channels, which can be driven by clock, tap tempo, CV or using the onboard slider, and each can have between one and 64 steps. Not only is there enough for a complex arrangement but it is a doddle to add ratchets, glides and gates per channel, making easy work of adding expression, detail and interest to a patch.

The controls feel great; the slider is light touch and it's satisfying to change the sequencer's phase this way, although plugging in a mod source works well too.

What is really a bold move by 4MS and a very welcome one is that, by entering a button combo and flipping the fascia, you can turn this into the Catalyst Controller instead, giving you double the fun. The control layout remains the same but you now get all manner of CV tools, including a 20 second CV recording option and the ability to set up eight channels of CV presets, which can be accessed using the slider or an external trigger.

So, no matter if you want a magical sequencer or a type of modular CV preset machine, the Catalyst is a fantastic option, with far more capability than there is space to cover here. Returning to my initial point about rigid vs random, the Catalyst does both. It can be free running or quantised, meaning you can set a scale, then twist a few knobs and access some happy accidents, or dial in more carefully and get exactly the results you expected but with the ability to adapt the sequence using the fun slider. **FM**

FM VERDICT

9.0

An excellent module that combines both rigid and random sequencing styles, and in a clever move can double as a controller too

THE PROS & CONS

+

Entertaining to use

Easy happy accidents

Solid build quality

Dual use module

Excellent user guide

–

A little too many button combos

Noise Lab Formantic £310

Noise Lab's module has three filters in one and bucket loads of control. **Rob Redman** fires it up for some formant fun...

CONTACT **WHO:** Noise Lab **WEB:** noiselab.io **KEY FEATURES** **I/O:** Two resonant band-pass filters, 24dB low-pass filter, CV controllable, Series and parallel path options

Filters are the most common tone-shaping tool used in synthesis and no matter what your preferred option, from band-pass to notch, there will be modules that cater to your needs. That said, some offer more than others, so why stick to a simple single mode filter, when there are other, more versatile, possibilities out there?

That's where Noise Lab of Sweden steps up, with Formantic. This isn't the smallest filter module on the market at 16hp, but it delivers a lot for the space with some fun and very useful tricks up its sleeves.

Formantic is more than just a standard filter. It comes with two band-pass filters, plus a 24dB low-pass filter but, unlike some others, it isn't a case of pick one option and live with it. Formantic revels in the interplay between the different filters and can do so in some novel and very musical ways.

There are two inputs. The first is routed through all the filters, while the second only passes through the low-pass. Each filter has separate controls for resonance, and frequency and the dominating cutoff knob controls all filters at once, so you dial in individual tones, then effect them all together for ease of use while performing or recording.

While there are CV inputs for each filter, a clever move by Noise Lab is the addition of a joystick, which controls the two band-pass filters, one on the X axis and the other on the Y axis. This makes it easy to set up an overall sound, or to make one that evolves via external modulation but can also be played in the moment using the cutoff knob and joystick. The joystick is a touch on the small side but it is responsive and playable, so only a minor niggle.

When it comes to actually creating formants with this module things really start to become fun. While it never quite sounds like a voice as such, Formantic really delivers on expressive tonal changes, which can be achieved a number of ways, or by combining methods.

Other than manipulating the onboard controls, which is very satisfying indeed and works great in a performance setting, the best way is CV input. What works really well is a combination of clocked modulation, alongside more random voltages. So a simple LFO running into band-pass A's resonance, while band-pass B gets a more random voltage can yield some impressive results that sound organic in a very musical way. If one of these inputs is clocked then you get a semi-synced expressiveness that is hard to achieve otherwise. On top of that you have a band-pass gain knob, which, while never driving hard, does offer a little hair to your signal.

Then there's the path switch, which dictates the signal flow behind the scenes, from series to parallel. This makes a marked difference to the output and is worth experimenting with for different tonalities. **FM**

THE PROS & CONS

+

Excellent build quality

Wide variety of tones on offer

CV or hands-on control make it good for different applications

–

Joystick is a little small

FM VERDICT

9.0

Takes filters to another level, with bucket loads of manual and CV control, and options for a huge variety of tones, all in a solidly-built module

Boss VE-22 Vocal Performer £319

A compact, battery-powered vocal effects unit which delivers powerful sounds. **Dan Flitcroft** takes the VE-22 for a spin

CONTACT **WHO:** Boss **WEB:** boss.info **KEY FEATURES** Multi-effects processor with EQ, delay, echo, reverb, doubling, harmonies, automatic pitch correction, high-visibility colour LCD and multifunction knobs, 50 presets and 99 memories, XLR mic input with phantom power and mic sensitivity control, two XLR outputs, onboard looper. Power: four AA batteries or an optional AC adaptor

THE PROS & CONS

+

A clean and crisp vocal sound

Battery operation perfect for buskers

User-friendly navigation and adjustment

Super-bright and clear screen

Solid footswitches

–

There's no auto harmony feature

Quite pricey compared to similar products on the market

No power supply or carry case included

It's been five years since Boss released the VE-500 vocal effects processor. With the VE-22, they retain the same powerful vocal effects, whilst dispensing with the guitar input which allowed for intuitive harmony processing. Harmonies can be set manually by selecting the appropriate key.

Boss has reduced the switches and buttons on this unit to make the entire experience very simple. The standard effects such as reverb, delay and chorus have been dialled in beautifully.

The device comes with a global EQ setting out of the box, which provides a powerful and sensible live vocal sound to suit most occasions. I found myself reducing the compression to a level that I found more comfortable. For those who like pitch correction, the VE-22 provides an outstanding and accurate representation for slick live pop vocals. I switched off the pitch correction and spent my time dialling in a number of subtle-sounding reverbs and delays; it is these standard effects where the VE-22 really shines. A vibrant and clear display screen means changing things on the fly in a live setting is a breeze. The unit can be used both as a footswitch or handheld device.

The addition of a phantom power and battery operation is a smart move, especially for buskers where a power source is not readily available. I do think that for £319, Boss could have thrown in a power supply as standard. Given that the VE-500 retails for a mere £50 more and comes with a power supply and additional functionality such as intuitive harmonies, it makes the VE-22's price point hard to justify.

As with many other vocal effects units, the majority of the onboard effects can range from silly to completely pointless. Presets such as 'ROBOT' seem ever present on these devices and strangely low in the options order. The inclusion of a looping function feels like an afterthought, with no real ability to save or layer tracks methodically.

Whilst the VE-22 is a basic item in terms of what it can do, the algorithms employed for the standard effects such as reverb, delay and chorus are remarkably good. Many devices struggle to produce a clean signal with no ground noise or hiss. The VE-22 has no such issues in this department and can be relied upon to produce a slick live vocal sound. **FM**

FM VERDICT

7.8

A compact and stripped back vocal effects unit which does all the basics very well, providing a beautifully clean signal

Oberheim DMX – GForce £48

Oberheim's DMX was one of the first commercially available digital drum machines. Unlike the Roland TR-808, it made use of samples for all its sounds, with each of it's eight 'voices' getting a dedicated playback card and output. It had no sampling capability itself, and as such, the user had to swap out physical chips on each card to change sounds. Despite this, alternative chips were available to buy – and Oberheim introduced the Prommer for creating your own.

However, despite what now seem like a host of limitations, the DMX earned it's place in the pantheon of '80s classics. GForce are no strangers to the resurrection of Oberheim synth classics in plugin form, and they now turn their expertise to the DMX.

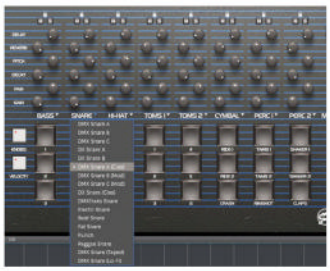
Loading up the plugin and pressing a few keys will deliver some familiar drum sounds straight away. Not only that, but after a flick through the presets you'll notice that all those sought-after alternative sound chips are present here as well. You will also hear onboard effects (delay, reverb, filtering, distortion and compression), and notice that there's no sequencing onboard. It is also worth noting that this isn't an emulator per-se, so there's no modelling of voice card circuitry going on.

That being said, this is a cost-effective way to access some classic sounds. The main omission to my mind is the lack of individual outputs (essential for the authentic mix experience), but I am assured by GForce that they are aware of this request from users.

Bruce Aisher

gforcesoftware.com

VERDICT 7.9



S.K.Y. Studios – S.K.Y. Keys $129

It is always interesting to see what a small developer might do when putting time and effort into creating their own standalone sample playback engine. And this brings us neatly to S.K.Y. Keys from S.K.Y. Studios.

It's creator, Skylar Young, recorded a host of samples from a range of hardware synth and keyboard sources with the intention of creating a set of 200 high-quality presets.

These are divided into eight categories, and on selection provide a simple set of editing tools. Familiar ones for attack, release and start point are here, but time-stretch, a tempo-synced reverse effect, lo-fi 'wow' and 'flutter' LFO and simple filter shaping make for a strong set of direct tweak controls. There are further parameters on the 'settings' page for looping, doubling and humanizing – though it would have been nice to have direct access to these.

If you aren't happy with the 4GB of provided content, the plugin also offers drag and drop functionality for you own samples.

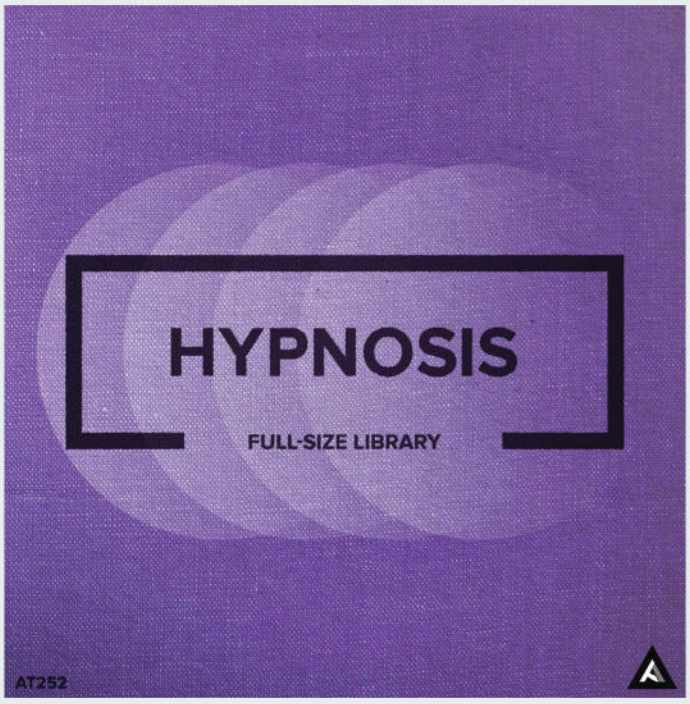
S.K.Y. Keys contains a bunch of easily accessible and effective sounds combined with a simple, but focussed, collection of editing controls. These allow you to play, edit and compose with a minimal learning curve, and at the current intro price represents great value for money. I can see myself using S.K.Y. Keys a lot.

Bruce Aisher

skystudiosplugins.com

VERDICT 8.0

Audiotent – Hypnosis £45



Futuristic techno abounds in this gritty, full-sized sample pack with dark, experimental sounds at the forefront and cutting-edge riffs and rhythms pulsing from the ground up.

The textures are sonically rich and raw, with all corners of the 700-strong loop library packed with top-tier production tools. The deep pad sounds and atmospheres mesmerise as each lively lead line ear-worms deep inside your noggin, leaving dusty drums and toppy percussion loops to fire a path through the hypnotic haze.

The modular sequencing is second-to-none, too, with all the truly unique twists and tones up for grabs – leaving you to concentrate on perfecting your arrangements, fun stuff, or any other nuts and bolts bits, to take your tracks over the finish line.

Roy Spencer

audiotent.com

VERDICT 9.0

Sample Magic – Rarities on Wax

From $12.99/month

Inspired by the vinyl diggers of yore, this pack of hip-hop-ready samples is full of grooves you'd normally need dusty fingers to score. There's jazzy keys and guitars to chop, fly flutes, and some bumping bass riffs to underpin it all.

There's plenty to build your beats around, and some dope drums to make your own. These crispy loops have well-sculpted kicks and neck-snap snares, so they really cut through. A perfect fit for bringing these '60s and '70s-style funk nuggets into the Golden Era of boom neo-bap rap.

A real heavyweight crate for beat-miners who've long since hung their lamps and sample shovels up.

Roy Spencer

splice.com

VERDICT 8.0

Splice Sessions – Sounds Of Soca

From $12.99/month

Sun-kissed studio sessions, recorded live and direct in Trinidad and Tobago. The vibes are high on this one, with all the super-catchy rhythms full of energy and danceability.

The backbone loops and one-shots take in a whole host of traditional percussion playing, with tight cabasa and bongo takes to die for, and the more song-starting melodies have stacked verse and chorus-ready guitar sounds, amongst other instruments, which are sure to delight.

Modern dance textures come via the synth sounds on offer, with layered plonks and plinks adding extra digital doses of hot calypso sauce to the musical melting pot. Helmed by producer Smiddy Smith, it makes for a treasure trove of super soca samples. *Roy Spencer*

splice.com

VERDICT 7.0

Industrial Strength – TD Audio – Early Hardstyle £16.95

Bonkers set of full-bore samples, taking their cues from the dawn of this hard dance genre. Inside, your eardrums get assaulted by the dirtiest tonal kick drums – a signature of this style. These loops and hits attempt to hold down the rest of the pack, with all the other punchy production pieces of complexly distorted noises smashing you in the guts at speeds of over 150BPM.

Elsewhere, there's terrifying synth stabs, a tasty batch of reversed bass bars and one-shots, and some bonus FX glue to stop it all going off the rails completely.

The 704MB of track-smashing samples all come with a 24-bit audio polish, and nothing gets maxed out too much, leaving you nutters with extra headroom if you simply must go harder. *Roy Spencer*

loopmasters.com

VERDICT 7.0

Renegade Audio – Dub Pack Series Vol 6: Pressure Dub £19.95

Time to get your mitts on a corker of a vintage-sounding dub track, and this rootsy release is handily broken down into 32 individual and eight group stems for fellow sound scientists to plunder. The 120BPM stepper has been built up with skanking guitar playing, dramatic FX nosies, bottom-heavy bass, choice vocal takes and swinging drum loops, all for the taking.

Pluck out the best bits: they're all great for remixing, fattening your own tracks with some fire loops or just using as jumping-off points.

Or, if you prefer, you can purchase individual elements like stems, loops, or one-shots, if you're watching them pennies. *Roy Spencer*

loopmasters.com

VERDICT 8.0

DAWs

Bitwig Studio From €49

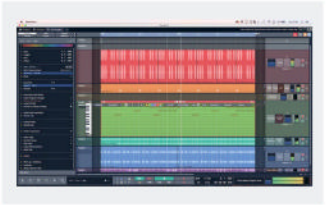
Arguably the most forward-thinking DAW on the market, the latest version of Bitwig Studio – v5.2 – adds 3 new EQs and an overhaul compressor.

Logic Pro 11 £199

Version 11 of Logic Pro is finally here – alongside Logic for iPad v2 – and adds AI-aided keys and bass players, along with in-DAW stem seperation and a new 'instant warmth' plugin. Best of all, it's free for current users.

Steinberg Cubase £497

Review: FM404 On the face of it v13 isn't a ground-breaking Cubase release – and there will be no doubt be some disappointed users out there - but there is enough here to satisfy many.

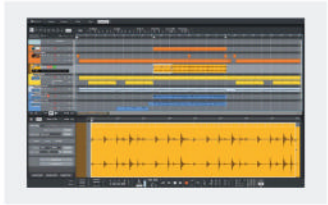


Tracktion Waveform Pro from $119

Review: FM345 Waveform is now friendlier, contains more creative tools and brings workflow ideas you'll have missed from other DAWs.

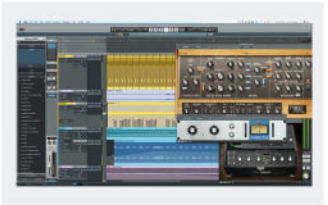
Image-Line FL Studio from £85

The latest version of FL Studio 21 adds exciting features including in-DAW stem separation and Cloud-based libraries.



Reason Studios Reason 13 £499

Currently in beta, v13 of Reason Studios' DAW-come-plugin overhauls the sequencer and adds a fantastic new polysynth and space echo-style effect.



Universal Audio LUNA free

UA might not want to call LUNA a DAW, but let's be honest... this is a slick and stylish recording environment and a great freebie. It's no longer just for Apollo owners either.

PreSonus Studio One Pro £345

Now up to version 6, Studio One now has a lot to offer those working with traditional notation and scoring for screen.

Avid Pro Tools from $199/$9.99p/m

With its latest update, Avid is bringing Live-inspired nonlinear sequencing to the DAW in the form of Pro Tools Sketch.

Ableton Live 12 from £259

Review: FM407 While some new features are better implemented than others, Live 12 is a generous update stuffed with ideas and real creative potential.

HIGH-END POLY SYNTHS

Arturia PolyBrute 12

€3,999

Full Review: FM410 | The PolyBrute was already a fantastic synth, but this update puts it up there with the best – and most forward-thinking – synths out there.

Groove Synthesis 3rd Wave £3,279

Review: FM406 Simply one of the most powerful synths you could imagine, wrapped up in one of the easiest to use and most hands-on designs.

UDO Super Gemini £3,595

Review: FM408 One of the best performance synths on the market. The Gemini might be up there in terms of price, but does plenty to warrant the outlay.

Waldorf Iridium Core €1941

Review: FM406 Undoubtedly one of the best-sounding and most versatile synthesisers in recent years. The compact Core will be a hit with desktop producers.

Sequential Take 5 £1,229

Review: FM382 More than just a more affordable version of the Prophet, Take 5 sits very much on its own, as a distinctive synth with a fantastic sound.

HARDWARE SEQUENCERS

Korg SQ-64

£269

Full Review: FM367 | An intuitive, nostalgic and very musical bit of gear. v2.0 firmware update has added a new drum mode and more.

Arturia KeyStep Pro £319

Review: FM359 For melodic sequencing duties and flexible hardware control, this is one of the best keyboard devices around.

Novation SL MkIII from £540

Review: FM338 For those who work with both hard and software, this may be the best studio centrepiece on the market.

Pioneer DJ Toraiz Squid £467

Review: FM351 Features like Groove Bend and speed modulation put a new spin on your sequencing moves.

Arturia BeatStep Pro £196

Review: FM296 A modern classic, offering great connectivity, sequencing and controller capabilities, all without breaking the bank.

SYNTH PLUGINS

Baby Audio Atoms

$99

Full Review: FM407

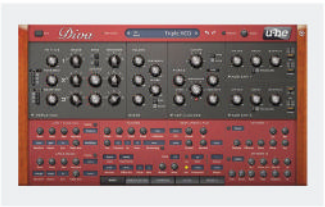
Atoms is a characterful and natural-sounding electronic instrument. Come for the otherworldly pads, stay for the surprisingly hard-hitting bass.

Arturia Pigments

$199

Full Review: FM393 (v4)

The update to version 5 isn't the most substantial Pigments update we've seen, but this is still arguably the most capable synth out there.



u-he Diva €179

Diva is a little long in the tooth these days, but it's still one of the most powerful and popular virtual analogue synths going.

Kilohearts Phase Plant $199

Review: FM350 Phase Plant's modular design comes with a slightly high learning curve, but it also brings masses of power and flexibility.

Cherry Audio GX-80 $59

Cherry Audio's CS-80-inspired virtual analogue synth is rich and powerful, capable of huge, analogue-sounding chords and pads.

Tracktion F.'em $179

Review: FM373 F.'em is a hugely powerful digital synthesiser – likely too powerful for some. But for those that brave its depth there's a mass of potential here.

Cherry Audio Sines $49

Sines is a unique and original synth based around the complex interaction of sinewave oscillators. It's a bargain at under £/$50.

FabFilter Twin 3 £109

An update to a modern classic. Fabfilter Twin 3 is the perfect balance between vintage influence and contemporary design.

Spectrasonics Omnisphere $499

Omnisphere is huge, both in the sense of its included sound content and its actual sound. The blend of samples and synthesis results in gorgeous, complex patches.

Sonic Charge Synplant 2 $149

Review: FM403 Already an esoteric classic, this long awaited update adds the revolutionary Genopatch mode, which uses neural networks to mimic any sound.

STANDALONE MUSIC MAKERS

Polyend Tracker+ $799

Tracker was already a fun standalone instrument, but this updated version with added synths and drum machines makes it a proper all-in-one sketchpad.

Akai MPC Keys from £550

Full Review: FM387 The MPC takes the winning format of the MPC Live and builds it into a keyboard workstation. It's a logical, winning concept and well-executed.

Ableton Push £1,669

Full Review: FM397 Push finally lives up to Ableton's vision of controller-as-instrument, and standalone mode is a great new way to use Live.

Roland MC-707 $999

Review: FM349 It lags behind some rivals on the sampling front, but on the whole the 707 is a powerful and well-designed groovebox. A welcome return for the company's MC line.

NI Maschine+ £1,099

Review: FM363 There are some limitations, but Maschine+ delivers the core Maschine workflow in standalone form: inspiring, creative and fun in the process.

HARDWARE GROOVEBOXES

Teenage Engineering EP-133 K.O.II £299

Full Review: FM405 | The K.O.II isn't the most advanced sampler on the market by any stretch, but there's a lot of fun to be had within its limitations.

Polyend Play+ $799

Full Review: FM405 The 'Plus' builds on the capabilities of the original Play by adding some neat synth engines alongside its sample tracks, enhancing the usability considerably.

Elektron Syntakt £949

Full Review: FM392 Building on the successes of multiple other Elektron instruments, Syntakt is a top quality analogue-meets-digital groovebox with a lot of power under the hood.

Roland SH-4d £549

Review: FM394 Roland have released a lot of retro-inspired gear in recent years, but this synth/drum combo stands out from the crowd as a real sonic playground.

Novation Circuit Tracks £360

Review: FM369 Circuit Tracks is an excellent update to one of the best value hardware instruments on the market. MIDI, samples and synths in one bargain box!

SEMI-MODULAR SYNTHS

Intellijel Cascadia

£2,025

Full Review: FM401

A bit of a master stroke. Cascadia merges different synthesis types wonderfully and houses them in a format that works extremely well.

Moog Spectravox

$599

Full Review: Coming soon

The latest addition to Moog's range of semi-modular instruments can function as both a semi-modular synth and an analogue vocoder.

Korg Volca Modular £190

Review: FM342 A West Coast synth in a compact package. It may be fiddly, but give in to its experimental ethos and it's endless fun.

Moog Mavis £339

Review: FM387 Mavis can't be faulted at this price. It covers a wide range of tones, is well built and brings new options to the Moog format.

Moog DFAM £549

Review: FM333 A unique percussion synth, and the perfect partner to the Mother-32. The lack of MIDI is quite disappointing though.

Arturia MiniBrute 2S £575

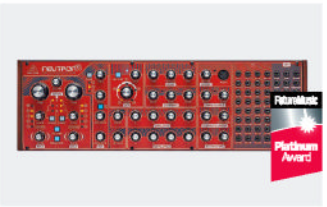
Review: FM328 Takes on an expanded synth engine and semi-modular architecture. The sequencer-focused 2S is our favourite.

Bastl Softpop SPII £445

Review: FM393 Softpop is an instrument that offers vast tonal options and great sequencing, connectivity and portability. A huge leap over its predecessor.

Moog Matriarch £1,979

Review: FM355 The Matriarch is very inspiring. It's well built, has the classic Moog Modular sound and is complex yet still pleasingly intuitive. A future classic!



Behringer Neutron £549

Review: FM334 Despite a couple of design issues, the Neutron is a fun, useful and immensely flexible synth. At the suggested price, it's fantastic value for money.

PWM Malevolent £499

Review: FM388 A bold and characterful debut that's very much worth your attention, although elements of its vintage ethos occasionally limit its versatility.

oeksound

meet bloom, oeksound's adaptive tone shaper

Bloom analyzes the character of a signal and applies corrections to the perceived tonal balance for a more even and refined sound. Achieve warmth, clarity, or brightness with easy control for nuanced enhancements or striking transformations. Bloom unveils the full potential of your sound.

Learn more at oeksound.com

WARM, SILKY CHARACTER

ULTRA-LOW NOISE

WIDE DYNAMIC RANGE

MEET YOUR NEW

FAVOURITE MICROPHONE

NT1 *Signature Series*

STUDIO CONDENSER MICROPHONE

RØDE

rode.com

Exclusively distributed in the UK and Ireland by Source • T: 020 8962 5080 • W: sourcedistribution.co.uk/rode

9021

9000